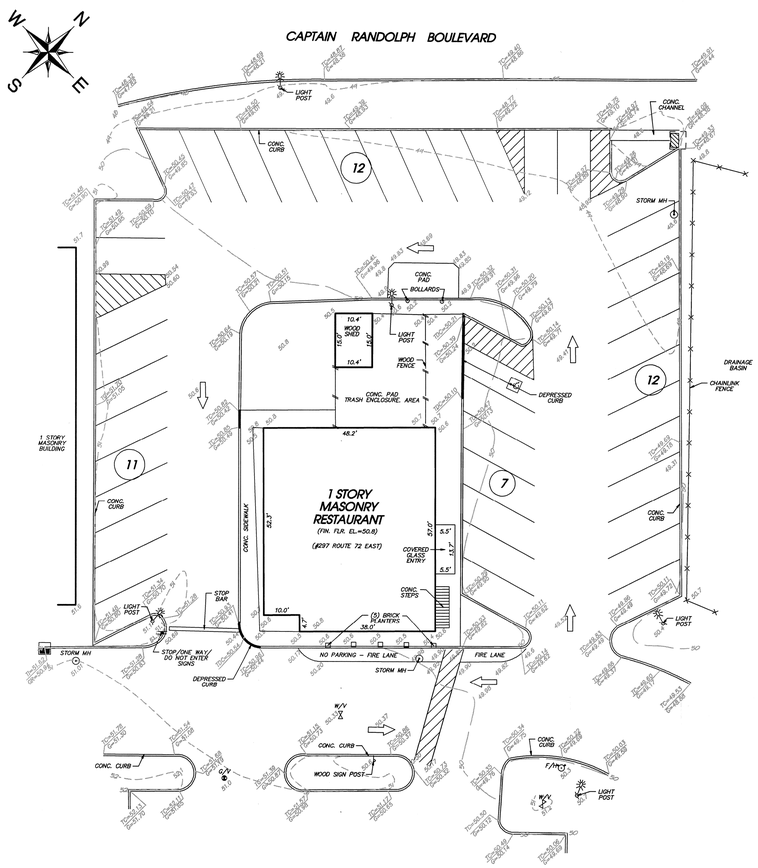
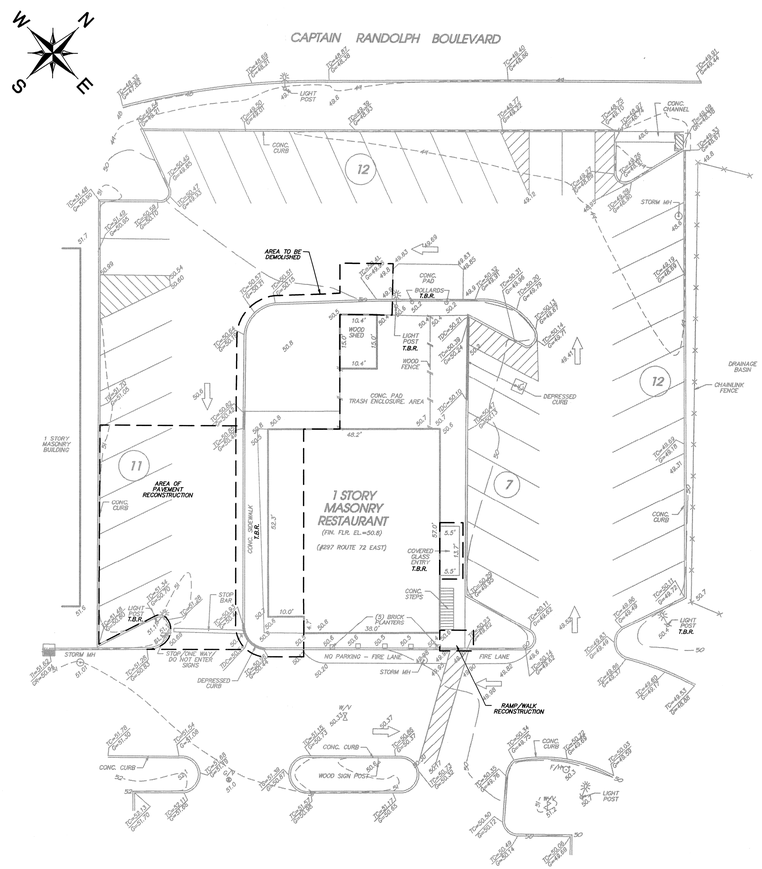
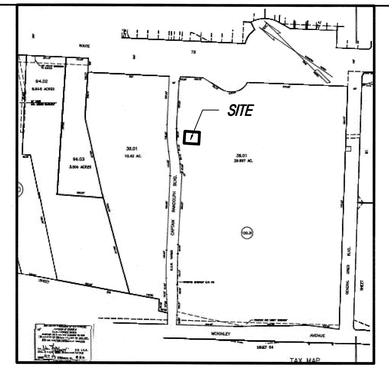


EXISTING CONDITIONS



DEMOLITION PLAN

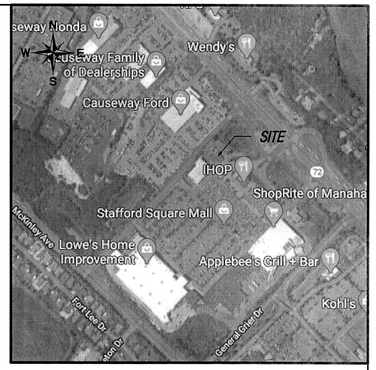


TAX MAP

SCALE: 1" = 400'

SCALE IN FEET

0 400 800

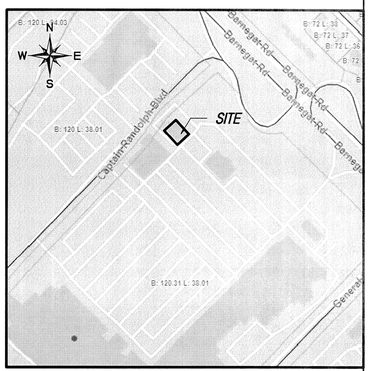


KEY MAP

SCALE: 1" = 500'

SCALE IN FEET

0 500 1000



USGS MAP

SCALE: 1" = 300'

SCALE IN FEET

0 300 600

INDEX OF SHEETS

PROPERTY OWNERS WITHIN 200 FT. (DATED 12/8/2020)

BLOCK	LOT	OWNER
120	38.01	LTD REALTY INVESTMENT III LP PO BOX 547 MANAHAWKIN, NJ 08050
120	50.01	DAVIS & ASSOCIATES, LLC 8000 SAGEMORE DR, #8201 MARLTON, NJ 08053
120.21	39.01	HD DEVELOPMENT OF MARLYLAND, LLC PO BOX 105842 ATLANTA, GA 30348
120.21	39.02	81 ASSOC LLC C/O PASBJERG DEV CO PO BOX 384 SHORT HILLS, NJ 07078
120.30	48.02	STAFFORD MOBILE, LLC 8000 SAGEMORE DR, #8201 MARLTON, NJ 08053
120.30	51.01	DAVIS & ASSOCIATES, LLC 8000 SAGEMORE DR, #8201 MARLTON, NJ 08053

UTILITIES

ATLANTIC CITY ELECTRIC
ATTN: REAL ESTATE DEPARTMENT
5100 HARDING HIGHWAY, SUITE 399
MAYS LANDING, NJ 08330

NJ NATURAL GAS CO.
C/O LEGAL DEPARTMENT
1415 WYCKOFF ROAD, P.O. BOX 1464
WALL, NJ 07719

VERIZON, C/O DUFF & PHELPS
P.O. BOX 2749
ADDISON, TEXAS 75001

STAFFORD TOWNSHIP
WATER & SEWER UTILITY DEPARTMENT
260 EAST BAY AVENUE
MANAHAWKIN, NJ 08050

OCEAN COUNTY SEWERAGE AUTHORITY
501 HICKORY LANE, P.O. BOX P
BAYVILLE, NJ 08721

COMCAST CABLEVISION OF NJ LLC
ONE COMCAST CENTER, TAX DEPARTMENT
PHILADELPHIA, PA 19103

AT&T CO.
ATTN: TAX DEPARTMENT
P.O. BOX 7235
BEDMINSTER, NJ 07921

STATE OF NEW JERSEY D.O.T.
P.O. BOX 600
TRENTON, NJ 08625

ZONE : HC HIGHWAY COMMERCIAL ZONE

	REQUIRED :	EXISTING :	PROVIDED :
LOT AREA	43,560 S.F.	29,997 ACRES	NC
LOT WIDTH	200 FT.	>200 FT.	NC
LOT DEPTH	200 FT.	>200 FT.	NC
PRINCIPAL BUILDING :			
FRONT SETBACK	60 FT. (TO RT. 72 PAVED SURFACE)	>60 FT.	NC
SIDE SETBACK	50 FT.	>50 FT.	NC
REAR SETBACK	40 FT.	>40 FT.	NC
MAXIMUMS :			
LOT COVERAGE	65%	<35%	NC
MIN. GREEN SPACE	35%	NC	NC
MIN. GREEN SPACE (REAR YARD)	40%	NC	NC

NC = NO CHANGE

SUBMISSION/DESIGN WAIVER REQUESTED FROM :

1. NOT DEPICTING ALL EXISTING SITE IMPROVEMENTS ON PLAN. ONLY THOSE THAT ARE GERMAIN TO THE PROPOSED SITE PLAN ARE SHOWN DUE TO SCOPE OF THE PROJECT
2. NOT PROVIDING A SOLAR ACCESS REPORT, ENERGY CONSERVATION REPORT, TRAFFIC IMPACT STUDY, ENVIRONMENTAL ASSESSMENT, OR DRAINAGE REPORT.
3. ANY AND ALL OTHER WAIVERS THAT MAY BE REQUIRED.

NOTES :

1. EXISTING PROPERTY INFORMATION SHOWN HEREON WAS TAKEN FROM A CERTAIN MAP ENTITLED "ALTA/ACSM LAND TITLE AND TOPOGRAPHIC SURVEY, BLOCK 120.31 LOT 38, STAFFORD TOWNSHIP SITE, STAFFORD TOWNSHIP, OCEAN COUNTY, NEW JERSEY," DATED 1/29/2004, PREPARED BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES..TOPOGRAPHY OBTAINED BY GCG ON 11/23/2020.
2. MINOR SITE PLAN BASED ON PLAN ENTITLED "AS-BUILT PLAN, MAKOTO JAPANESE STEAK HOUSE, LOT 38, BLOCK 120.31, TOWNSHIP OF STAFFORD, OCEANCOUNTY, NEW JERSEY," DATED 6/10/2010, PREPARED BY MICHAEL S. VANUCCI CONSULTING, LLC.
3. GCG FIELD-LOCATED EXISTING RESTAURANT AND SURROUNDING IMPROVEMENTS ON 11/23/2020. EXISTING SPOT ELEVATIONS ARE BASED ON NAVD 1988.
4. PROPERTY IS LOCATED IN FLOOD ZONE UNSHADED X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN), BASE FLOOD ELEVATION=N/A (NAVD 1988) AS SHOWN ON FLOOD INSURANCE RATE MAP STAFFORD TOWNSHIP, COMMUNITY NO. 340393, PANEL 0485F, MAP NO. 34029C0485F, EFFECTIVE DATE 9/29/2006. THE PROPERTY'S PRELIMINARY BASE FLOOD ELEVATION IS ELEVATION N/A (NAVD 1988) AND IS LOCATED IN PRELIMINARY FLOOD ZONE UNSHADED X, AS SHOWN ON PRELIMINARY MAP NO. 34029C0485G, PUBLISHED 3/28/2014. THIS IS FOR INFORMATIONAL PURPOSES ONLY AND IS SUBJECT TO VERIFICATION BY FEMA.
5. THE SITE WAS INITIALLY DESIGNED WITH A WHITE CASTLE FAST FOOD RESTAUARANT WITH A DRIVE THRU ON THE WESTERLY SIDE OF THE BUILDING. SUBSEQUENTLY, THE MIKADO RESTAURANT ELIMINATED THE DRIVE THRU LANE TO CONSTRUCT A 10' X 52' BUILDING ADDITION TO PROVIDE A LARGER INDOOR DINING AREA. IT IS NOW PROPOSED TO REMODEL THE EXISTING RESTAURANT BY REMOVING THE PRIOR 10' X 52' ADDITION AND RECONSTRUCTING A DRIVE THRU LANE. THE PROPOSED IMPROVEMENTS WILL RETURN THE PAD SITE BACK TO ITS BASIC ORIGINAL LAYOUT. CONSEQUENTLY, THERE IS NO INCREASE IN IMPERVIOUS COVERAGE WHEN COMPARED TO THE ORIGINALLY APPROVED SITE PLAN FOR THE WHITE CASTLE RESTAURANT.
6. PARKING REQUIRED FOR EXISTING RESTAURANT
   0.5 SPACE/SEAT X 60 INDOOR SEATS = 30 SPACES REQUIRED
   = 42 SPACES EXIST
7. THE EXISTING BUILDING IS TO BE SERVICED WITH PUBLIC WATER AND SEWER USING NEW SERVICES AND LATERALS.
8. HANDICAP PARKING SPACES, RELATED SIDEWALKS AND CURBING WILL CONFORM WITH THE "BARRIER FREE DESIGN LAW."
9. ALL SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO M.U.T.C.D. LATEST REQUIREMENTS. PAVEMENT PAINTING:
   A) PARKING SPACE STRIPES SHALL BE 4" WIDE, USING WHITE REFLECTIVE PAINT (FOR PARKING SPACES)
   B) PARKING SPACES FOR THE HANDICAPPED WILL BE DESIGNATED BY STENCILS (BLUE REFLECTIVE PAINT) IN CONFORMANCE WITH THE "BARRIER FREE DESIGN LAW".
   C) TRAFFIC DIRECTION ARROWS WILL BE WHITE REFLECTIVE PAINT.
   D) HATCH LINES SHALL BE ON A 45 DEGREE ANGLE AND SHALL CONSIST OF STRIPES 4" WIDE, USING YELLOW REFLECTIVE PAINT, 2 FEET ON CENTER.
10. ALL TOPSOIL, FERTILIZER, SEED, SOD, MULCH AND PLACEMENT THEREOF SHALL CONFORM TO THE MOST CURRENT REQUIREMENTS OF THE OCEAN COUNTY SOIL CONSERVATION DISTRICT. ALL AREAS NOT DESIGNATED FOR PARKING, SIDEWALKS OR BUILDINGS SHALL BE PLANTED, LANDSCAPED, OR TOPSOILED, FERTILIZED AND SEEDED. AN IRRIGATION SYSTEM SHALL BE INSTALLED FOR ALL LAWN AND PLANTING AREAS.
11. GARBAGE COLLECTION IS PROVIDED BY A PRIVATE CARTER.
12. THE CONTRACTOR OR LAYOUT PARTY SHALL VERIFY ALL ELEVATIONS AND DIMENSIONS ON THE JOB SITE AND SHALL VERIFY THAT THE PLAN BEING UTILIZED IS FINAL AND APPROVED FOR CONSTRUCTION.
13. THERE ARE NO FRESHWATER WETLANDS, SWAMPS, BOGS AND PONDS WITHIN TWO HUNDRED (200) FEET OF THE SITE.
14. THERE ARE NO EXISTING OR PROPOSED COVENANTS OR DEED RESTRICTIONS.
15. ALL LIGHTING FIXTURES SHALL CONFORM WITH ALL APPLICABLE REQUIREMENTS OF THE BOCA BASIC ENERGY CONSERVATION CODE AND LIGHTING POWER BUDGET DETERMINATION PROCEDURE, EMS-1, OF THE ILLUMINATING ENGINEER'S SOCIETY.

LEGEND

- —3— = EXIST. CONTOUR
- M.B.S.L. = MINIMUM BUILDING SETBACK LINE
- 3.5 = EXIST. ELEVATION
- E = EXIST. OVERHEAD UTILITY WIRES
- 54.0 = PROPOSED ELEVATION
- 54 = PROPOSED CONTOUR

OWNER :

72 ASSOCIATES, LLC
C/O PASBJERG DEV. CO.
PO BOX 384
SHORT HILLS, NJ 07078
973-467-0950

APPLICANT :

ZUBAIR CHAUDHRY
9 GINNIE LANE
WEST WINDSOR, NJ 08550
848-248-9636

SCALE IN FEET

0 20 40

No.	DATE	REVISION	BY	CHK.

BRUCE A. JACOBS
N.J. Professional Engineer No. 37489

11/25/2021
DATE

APPROVED BY
TOWNSHIP OF STAFFORD PLANNING BOARD

DATE _____ CHAIRMAN

ATTEST _____ SECRETARY

DATE _____ ENGINEER

MINOR SITE PLAN

P/O TAX LOT 38.01 BLOCK 120.31

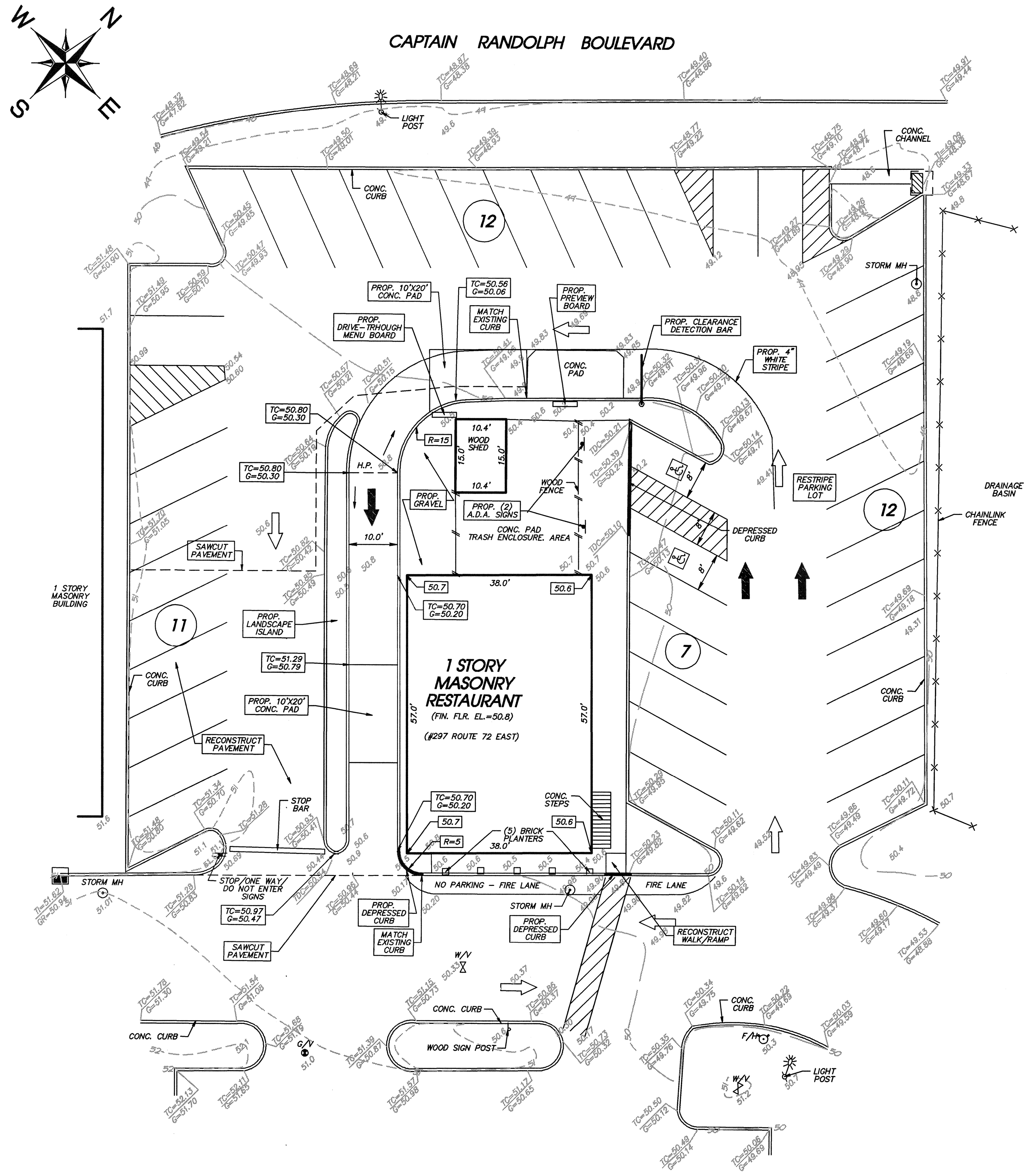
TAX MAP SHEET NO. 80

STAFFORD TOWNSHIP
OCEAN COUNTY , NEW JERSEY

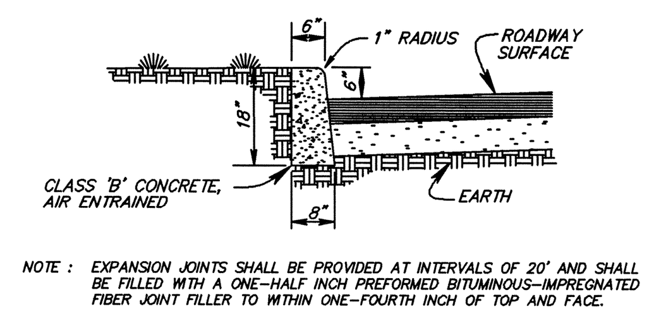
EXISTING CONDITIONS/DEMOLITION PLAN

SCALE:	1" = 20'
DATE:	1/25/2021
DRAWN BY:	MJD
CHECKED BY:	
SHEET NO.	1 OF 5
PROJECT NUMBER	11298

GRAVATT CONSULTING GROUP
Engineers · Surveyors · Planners · Environmental Scientists
414 Lacey Road, Forked River, NJ 08731
Tel. 609 . 693 . 6127 www.gravattconsulting.com
Certificate of Authorization No. 24GA27925900



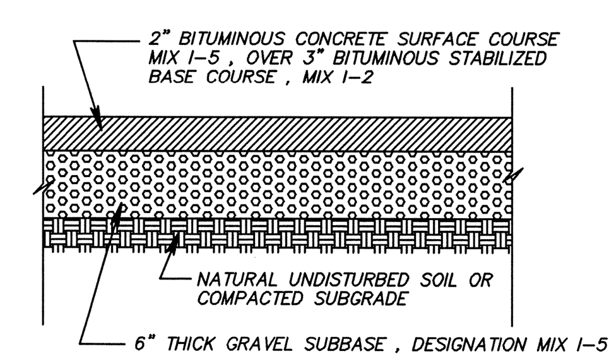
SITE PLAN



NOTE : EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS OF 20' AND SHALL BE FILLED WITH A ONE-HALF INCH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER TO WITHIN ONE-FOURTH INCH OF TOP AND FACE.

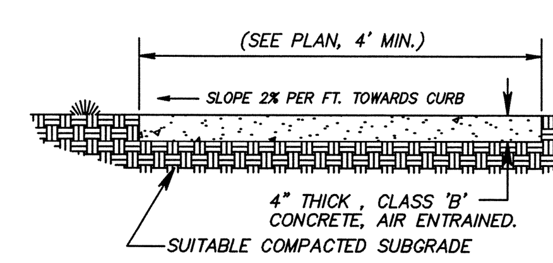
CONCRETE CURB DETAIL

NO SCALE



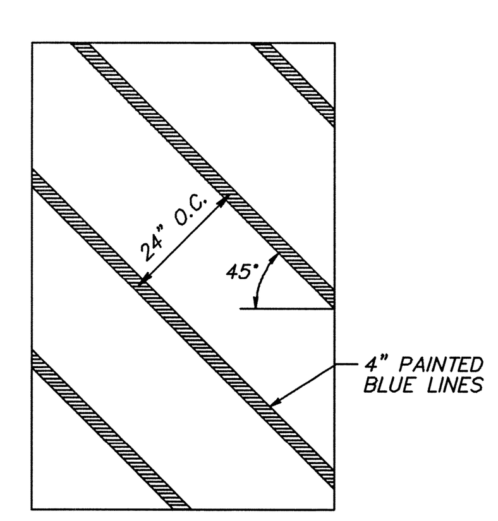
TYPICAL PAVEMENT SECTION

NO SCALE



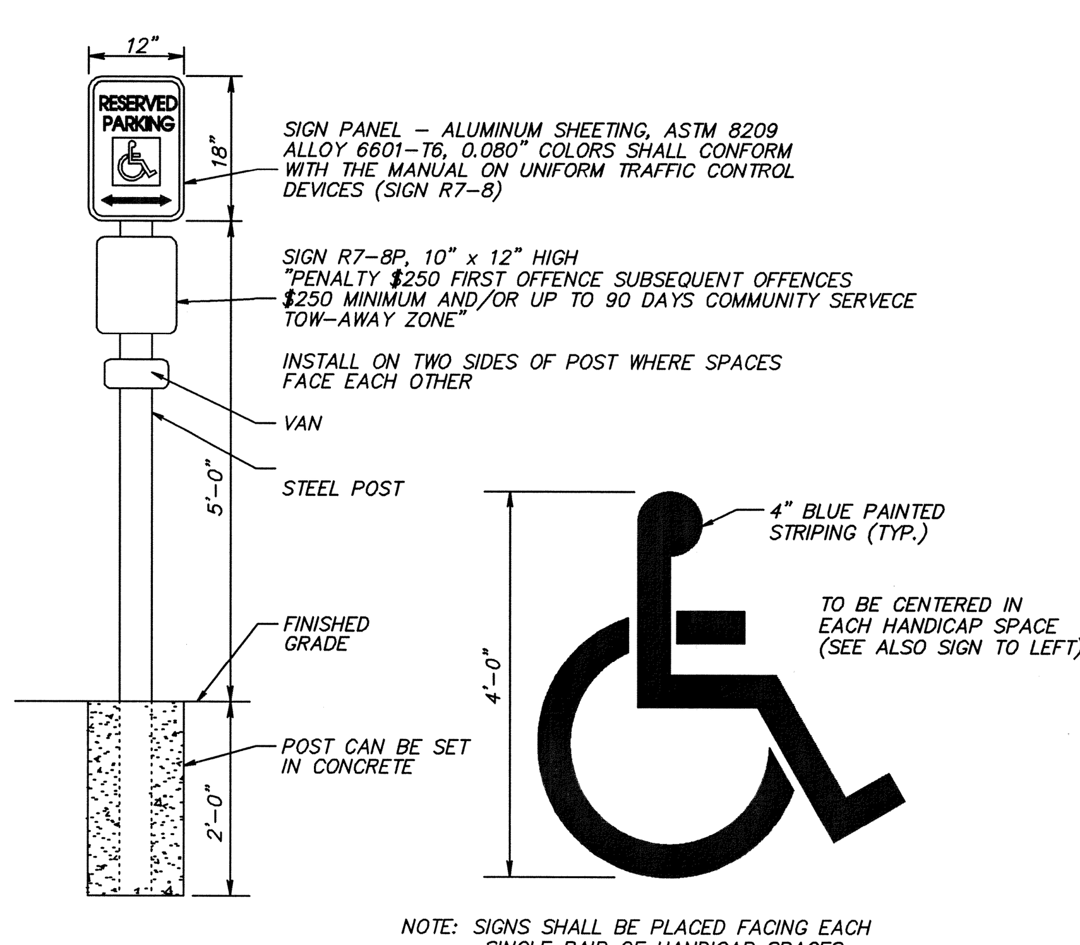
CONCRETE WALK DETAIL

NO SCALE



H/C STRIPING DETAIL

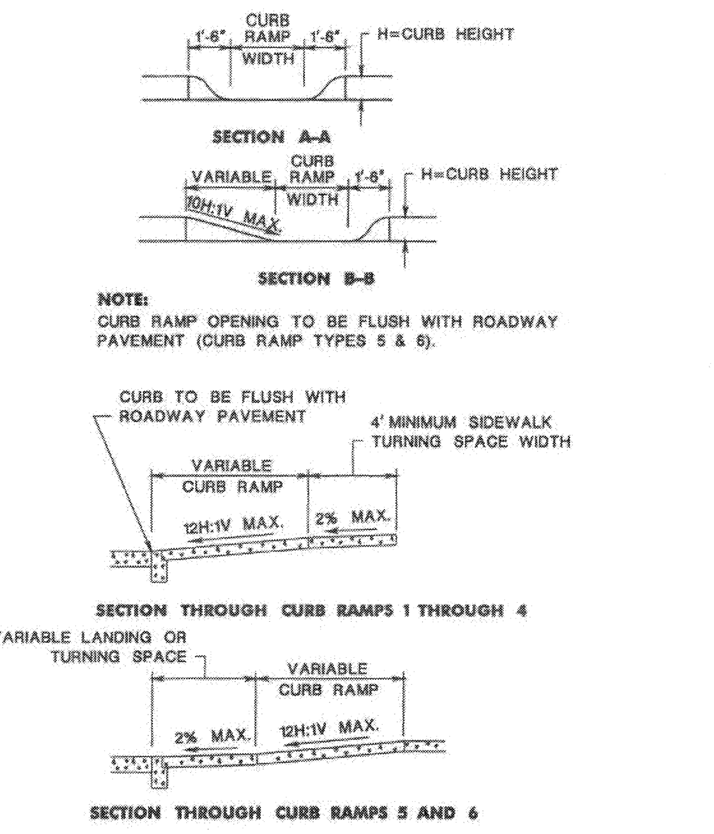
NO SCALE



NOTE: SIGNS SHALL BE PLACED FACING EACH SINGLE PAIR OF HANDICAP SPACES.

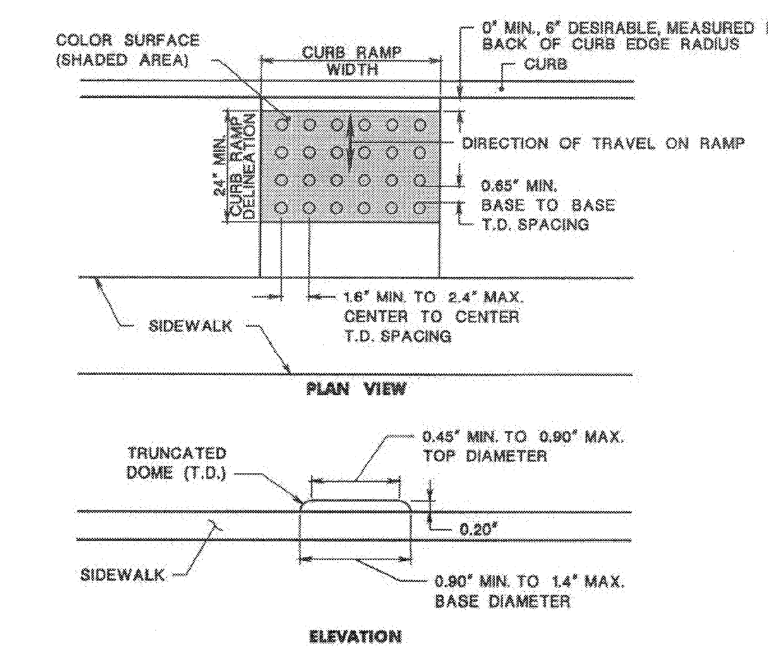
HANDICAPPED PARKING SYMBOL

NO SCALE

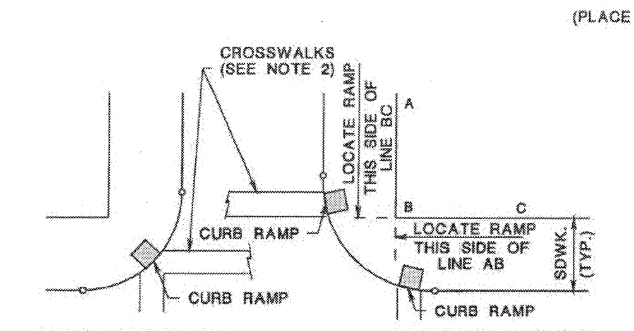


NOTES:

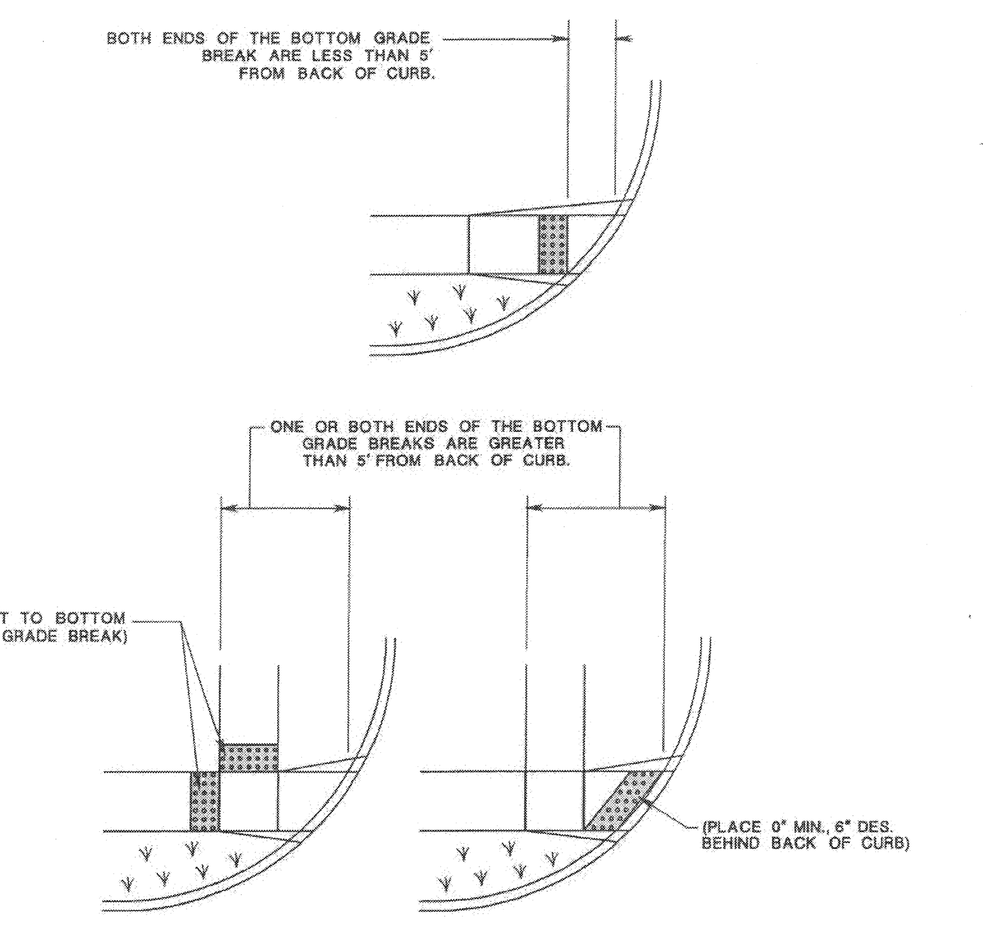
1. KEEP TURNING SPACE, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP CLEAR OF OBSTRUCTIONS THAT PROTRUDE ABOVE THE SURFACE.
2. FOR DIMENSIONS SEE CD-606-3 AND CD-606-4
3. CURB (DROPPED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT THE ENTIRE WIDTH OF THE RAMP (4 FEET MIN.) AT ALL CURB RAMPS.
4. FOR CURB RAMP TYPES 5 AND 6, IF A GRASS BUFFER DOES NOT EXIST, SLOPE CURB TO EQUAL SLOPE OF ADJACENT CURB RAMP.
5. SIDEWALK AND CURB RAMP WITHIN AREA ENCLOSED BY HEAVY LINES INDICATES THE PAY LIMIT FOR CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
6. CURB AND HEADER WITHIN AREA ENCLOSED BY HEAVY LINES INDICATES THE PAY LIMIT FOR VERTICAL CURB OR SLOPING CURB OF THE APPROPRIATE ADJACENT SIZE AND KIND.
7. WHERE THE DISTANCE FROM THE GUTTER LINE TO THE OUTSIDE EDGE OF SIDEWALK IS 6 FEET OR LESS, USE CURB RAMP TYPE 7, INSTEAD OF CURB RAMP TYPE 1 THROUGH 4.
8. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED. SEE PLANS.
9. THE 12H:1V MAX SLOPE IS THE RUNNING SLOPE FOR CURB RAMPS, BUT ONLY THE 12H:1V SLOPE MEASURED AS X_2 IS THE RUNNING SLOPE FOR TYPE 3 AND TYPE 4 CURB RAMPS. ENSURE THE RUNNING SLOPE OF CURB RAMPS DOES NOT REQUIRE ITS LENGTH TO EXCEED 15 FEET. THE RUNNING SLOPE MAY EXCEED THE 12H:1V MAX SLOPE SO AS NOT TO EXCEED THE 15 FEET MAXIMUM LENGTH.
10. CURB RAMP TYPE 1 THROUGH 7 ARE NORMALLY PLACED ON THE RADIUS RETURN AT THE INTERSECTION AND ON A TANGENT SECTION AS DRAWN.



DETECTABLE WARNING SURFACE



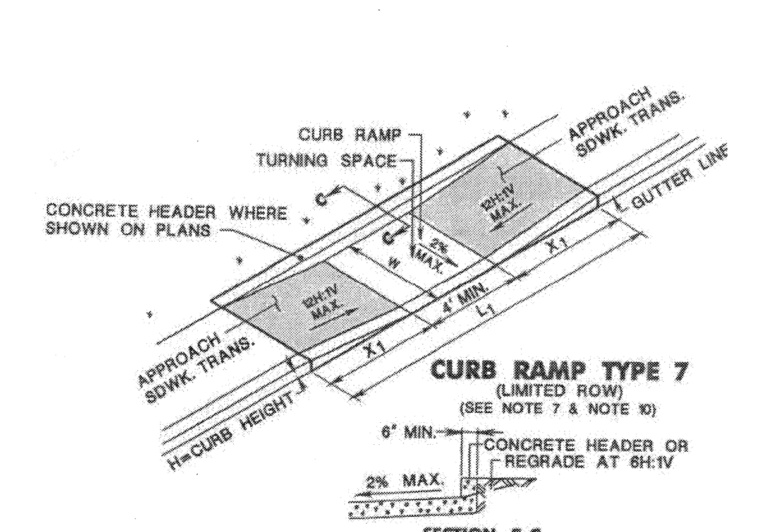
LOCATION OF CURB RAMP TYPES 1, 2, 3, 4, & 7 FOR CROSSING PARALLEL AND PERPENDICULAR TO HIGHWAY



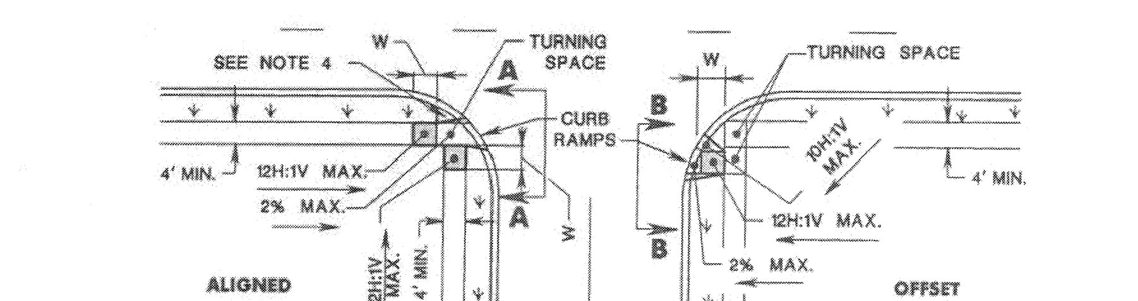
PLACEMENT OF DETECTABLE WARNING SURFACE FOR CURB RAMP TYPE 5 AND 6

NOTES:

1. KEEP TURNING SPACE, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP CLEAR OF OBSTRUCTIONS THAT PROTRUDE ABOVE THE SURFACE.
2. CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
3. FOR NARROW ISLAND WIDTH, SEE PEDESTRIAN REFUGE ISLAND WALKWAY OPENING AT INTERSECTIONS DETAIL.
4. FOR MEDIUM AND LARGE ISLAND WIDTH, SEE CURB RAMP TYPE 1 ON CD-606-1.
5. CONSTRUCT CURB RAMP TYPES 1, 2, 3, 4, & 7 PERPENDICULAR TO CURBLINE, AS SHOWN.
6. IF A CURB RAMP IS REQUIRED, THE LOCATION OF THE DETECTABLE WARNING SURFACE MUST BE AT THE BOTTOM OF THE RAMP AND WITHIN THE REQUIRED DISTANCE FROM THE RAIL.
7. A STANDARD DETECTABLE WARNING (DWS) SURFACE IS NOT AVAILABLE TO FIT THIS APPLICATION, AND THEREFORE ONE WILL NEED TO BE CUSTOMIZED. THE DWS SHOULD COVER THE ENTIRE WIDTH OF THE RAMP. THE ROWS OF DOMES ON THE DWS SHOULD FOLLOW THE DIRECTION OF TRAVEL OF THE RAMP, SO PEDESTRIANS WHO USE MOBILE DEVICES CAN TRACK BETWEEN THE DOMES.



CURB RAMP TYPE 7
(LIMITED ROW)
(SEE NOTE 7 & NOTE 10)



CURB RAMP TYPE 6

SCALE IN FEET

0 20 40

No.	DATE	REVISION	BY	CHK.

BRUCE A. JACOBS
N.J. Professional Engineer No. 37489

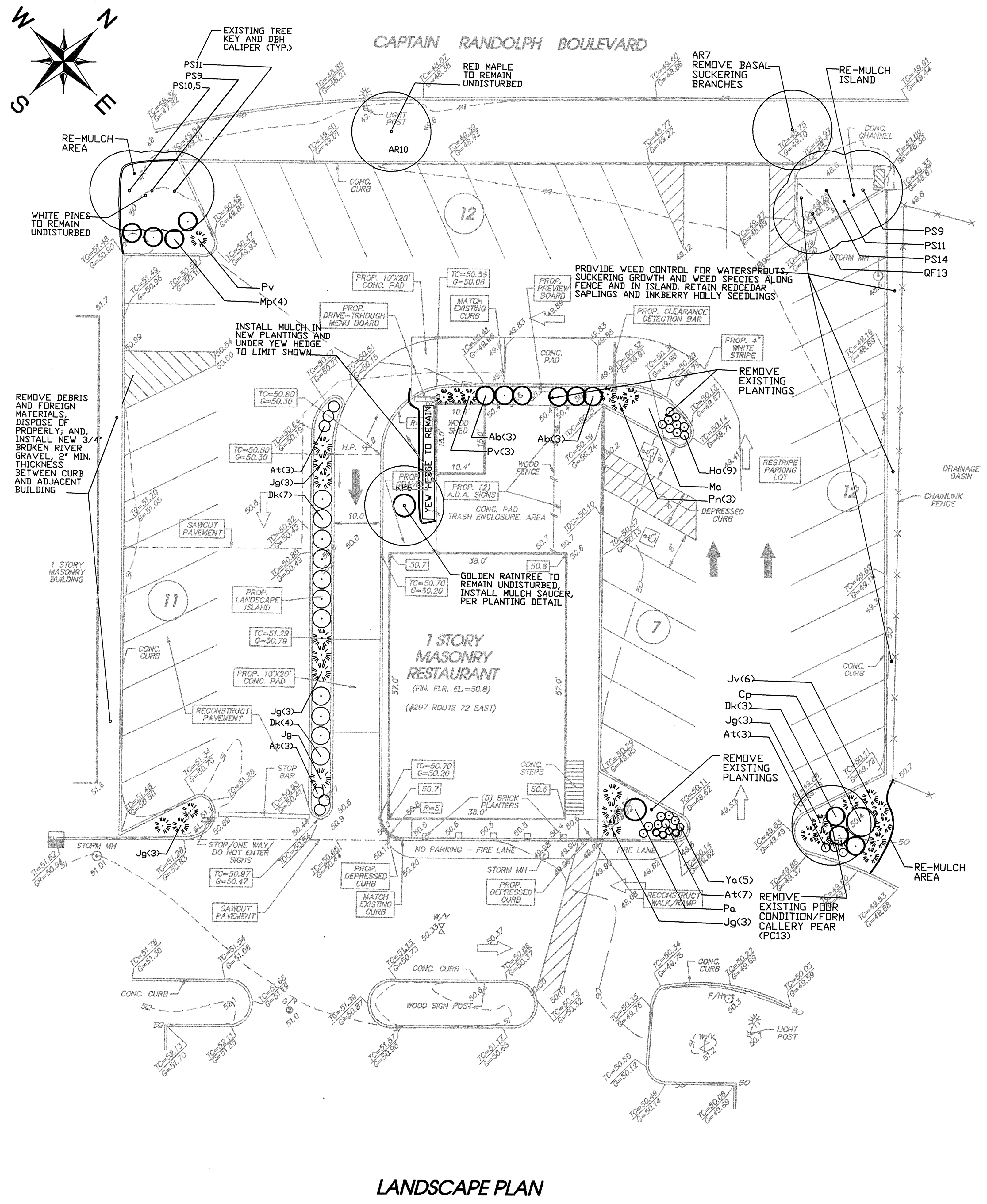
1/25/2021
DATE

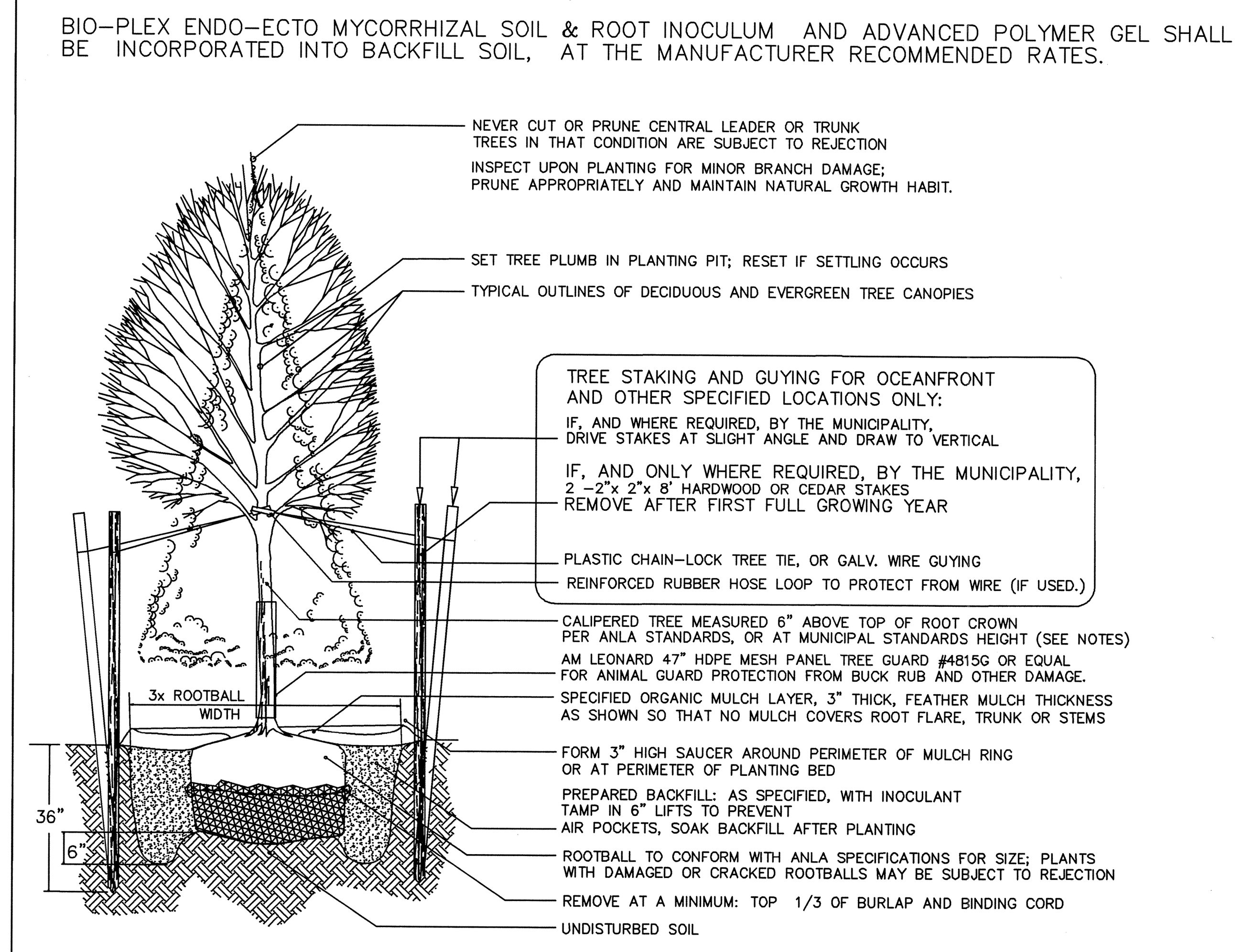
MINOR SITE PLAN
P/O TAX LOT 38.01 BLOCK 120.31
TAX MAP SHEET NO. 80
STAFFORD TOWNSHIP
OCEAN COUNTY , NEW JERSEY

SITE PLAN

GRAVATT CONSULTING GROUP
Engineers • Surveyors • Planners • Environmental Scientists
414 Lacey Road, Forked River, NJ 08731
Tel. 609 . 693 . 6127 www.gravattconsulting.com
Certificate of Authorization No. 24GA27925900

SCALE: 1" = 20'
DATE: 1/25/2021
DRAWN BY: MJD
CHECKED BY:
SHEET NO. 2 OF 5
PROJECT NUMBER 11298



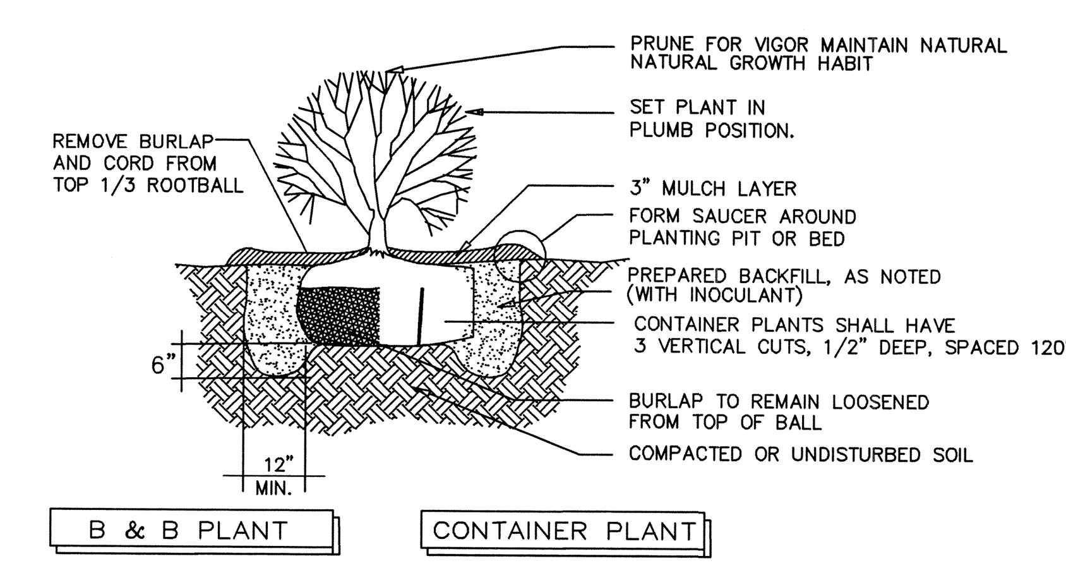


AT THE DIRECTION OF THE LANDSCAPE ARCHITECT, ANY PLANTING PIT OR PLANTING BED LOCATIONS AND THEIR DIMENSIONS MAY BE ADJUSTED AND/OR RELOCATED TO ACCOMMODATE THE BRANCHING AND ROOTS OF EXISTING TREES AND/OR SHRUBS WHICH ARE DEEMED BY THE LANDSCAPE ARCHITECT, TO REMAIN.

EVERGREEN AND DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

BIO-PLEX ENDO-ECTO MYCORRHIZAL SOIL & ROOT INOCULUM AND, EXCEPT SPECIES NOTED, ADVANCED POLYMER GEL SHALL BE INCORPORATED INTO BACKFILL SOIL, AT THE MANUFACTURER RECOMMENDED RATES.



AT THE DIRECTION OF THE LANDSCAPE ARCHITECT, ANY PLANTING PIT OR PLANTING BED LOCATIONS AND THEIR DIMENSIONS MAY BE ADJUSTED AND/OR RELOCATED TO ACCOMMODATE THE BRANCHING AND ROOTS OF EXISTING TREES AND/OR SHRUBS WHICH ARE DEEMED BY THE LANDSCAPE ARCHITECT, TO REMAIN.

SHRUB AND CONTAINER PLANTING DETAIL

NOT TO SCALE

LANDSCAPE ARCHITECTURAL NOTES

1. GENERAL NOTES:

A. THIS PLAN TO BE USED ONLY FOR THE PURPOSES OF LANDSCAPING.

B. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, STRUCTURES, ETC. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY, IN REFERENCE TO DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING.

C. IN THE EVENT THAT PLANT QUANTITY DISCREPANCIES OR MATERIAL MATERIAL OMISSIONS OCCUR IN THE PLANTING SCHEDULE, THE PLAN SHALL SUPERSEDE.

D. ALL PLANTING MATERIALS AND METHODS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE MUNICIPAL ORDINANCES OF THE TOWNSHIP OF STAFFORD AND ANSI Z-60.1 (CURRENT VERSION), THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA.) IN THE EVENT OF OTHER CONFLICTS BETWEEN THE ANLA STANDARDS AND MUNICIPAL STANDARDS, THE MUNICIPAL STANDARDS SHALL SUPERSEDE.

E. ALL EXISTING TREES AND SHRUBS TO BE PRESERVED AT THE PERIMETER OF THE SITE SHALL BE PROTECTED AGAINST CONSTRUCTION DAMAGE BY SNOW FENCING OR OTHER APPROVED METHOD, IF DEEMED NECESSARY. TREE PROTECTION SHALL BE PLACED OUTSIDE THE LIMIT OF THE TREE CANOPY TO AVOID OVER CLEARING. TREES TO REMAIN SHALL BE IDENTIFIED IN THE FIELD PRIOR TO CONSTRUCTION. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION GRADING OR CLEARING. EXISTING VEGETATION AT THE LIMIT OF CLEARING MAY BE SELECTIVELY PRUNED TO REMOVE DEAD, DISEASED, OR DAMAGED BRANCHING.

F. ALL LANDSCAPING SHALL BE PLANTED AS TO NOT INTERFERE WITH UTILITY LINES, SIGHT TRIANGLES, UNDERGROUND UTILITIES, OR PUBLIC WALKWAYS OR ANY OTHER EXISTING OR PROPOSED STRUCTURE. ALL PLANT MATERIAL LOCATED WITHIN REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLE EASEMENTS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT ROADWAY. ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESSES, OR WITHIN REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLE EASEMENTS SHALL NOT BE BRANCHED ANY LOWER THAN 8'-0" ABOVE GRADE, AND MUST BE APPROPRIATELY PRUNED. NO WOODY PLANTS EXCEPT GROUNDCOVERS ARE TO HAVE THEIR CENTERS CLOSER THAN 36" TO THE BACK OF THE CURB.

2. PLANT MATERIAL:

A. NO PLANT SUBSTITUTION SHALL BE ALLOWED WITH REGARD TO SIZE, SPECIES, NAMED VARIETY OR CULTIVAR, WITHOUT THE PERMISSION OF THE LANDSCAPE ARCHITECT AND THE APPROVING AUTHORITY.

B. ALL PLANTS SHALL BE DUG, PACKED, TRANSPORTED AND HANDLED WITH THE UTMOST CARE TO ENSURE ADEQUATE PROTECTION FROM INJURY AND DESICCATION.

C. ALL PLANTS SHALL BE FREE FROM DISEASE AND INFESTATION INFESTATION, AND BEAR ALL LEGALLY REQUIRED AGRICULTURAL CERTIFICATIONS.

D. ALL PLANTS SHALL BE PRUNED TO ENHANCE VIGOR PRIOR TO, OR UPON INSTALLATION, WHILE RETAINING THE NATURAL GROWTH HABIT OF THE PLANTS. THE CENTRAL LEADER SHALL NOT BE CUT; PROVIDED IN THIS CONDITION SHALL NOT BE ACCEPTED. DAMAGED, BROKEN OR CONFLICTING BRANCHES SHALL BE PRUNED CLEANLY, FLUSH WITH THE MAIN TRUNK OR BRANCH.

E. ALL PLANTS SHALL BE NURSERY-GROWN AND TAGGED WITH A DURABLE LABEL INDICATING THE GENUS, SPECIES, NAMED VARIETY OR CULTIVAR.

3. PLANTING:

A. SOIL MUST BE FROST-FREE, FRIABLE AND NOT MUDDY AT THE TIME OF PLANTING.

B. BACKFILL MATERIAL FOR PLANTING PITS SHALL BE TOPSOIL FROM ON SITE OR MATERIAL IMPORTED TO THE SITE CONFORMING WITH THE 2019 NJDOT STANDARD SPECIFICATIONS, SECTION 917.01, AND SHALL BE FREE OF ACIDIC MARL, STICKS, LARGE STONES, DEBRIS, EXCESSIVE R-BLEND, AND/OR OTHER OBJECTIONABLE MATERIALS. EXCEPT AS OTHERWISE NOTED IN THE PLANTING SCHEDULE, BIO-PLEX ENDO-ECTO MYCORRHIZAL SOIL & ROOT INOCULUM AND ADVANCED POLYMER GEL (OR EQUIVALENT MATERIALS RECEIVING PRIOR APPROVAL) SHALL BE INCORPORATED INTO THE BACKFILL MIX IN THE MANUFACTURER'S SPECIFIED RATES AND QUANTITIES FOR THE USE.

C. PLANTS SHALL BE SET TO ULTIMATE FINISHED GRADE SO THAT THEY WILL BE LEFT IN THE RELATIONSHIP TO THE SURROUNDING GROUND AS THEY HAD, PRIOR TO BEING DUG. IF EVIDENCE OF SATURATED SOILS IS ENCOUNTERED DURING EXCAVATION OF THE PLANTING PITS, UPON DIRECTION BY THE LANDSCAPE ARCHITECT, PLANTS SHALL BE SET SO THAT THEIR ROOT CROWNS ARE APPROXIMATELY THREE INCHES ABOVE THE FINAL GRADE, WITH TOPSOIL AND MULCH GENTLY MOUNDED TO AVOID EXCESSIVE DRYING AT THE SURFACE. UNDER NO CIRCUMSTANCES SHALL PLANTINGS AT RELATIVELY DRY LOCATIONS BE PERFORMED IN A MOUNDED MANNER.

D. THE CORD BINDING THE BALL OF ALL BALLED AND BURLAPPED (B&B) SHALL BE CUT AND REMOVED, AND BURLAP ON THE UPPER PORTION OF THE ROOT BALL SHALL BE REMOVED. PLANTS WITH SYNTHETIC NON- DEGRADABLE ROOT BALL WRAPS SHALL NOT BE ACCEPTABLE.

E. ALL PROPOSED TREES SHALL BE SET IN BEDS MULCHED TO THE LIMIT OF THEIR PLANTING PITS. ALL PROPOSED SHRUBS SHALL BE CONTINUOUS, MASSED PLANTING BEDS, RATHER THAN AS ISOLATED INDIVIDUALS. ALL TREE AND SHRUB BEDS SHALL RECEIVE A 3" THICK APPLICATION OF A THOROUGHLY COMPOSTED ORGANIC MULCH FREE OF ANY OBJECTIONABLE MATERIALS.

F. WHERE ORNAMENTAL GRAVEL IS SPECIFIED ON THE PLAN, 0.75" d50 BROKEN DELAWARE RIVER GRAVEL SHALL BE INSTALLED, A MINIMUM OF 2" THICKNESS, BROUGHT TO A FLUSH GRADE WITH THE SURROUNDING FINISHED GRADE, CONCRETE WALKWAY, OR CURB.

G. IN THE EVENT THAT ANY AREAS ARE CLEARED OUTSIDE THE LIMITS THE LIMITS DEPICTED ON THE PLANS, REFORESTATION IN ACCORDANCE WITH SECT. 130-51 H(3) AND ALL OTHER APPLICABLE SECTIONS OF THE STAFFORD MUNICIPAL CODE.

4. MAINTENANCE

A. ALL PLANTINGS SHALL BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM TO PROVIDE MOISTURE FOR SOUND HORTICULTURAL PRACTICE, TO ENSURE THEIR PROPER ESTABLISHMENT AND MAINTENANCE.

B. IN GENERAL SHRUBS ARE TO BE PLANTED AT INTERVALS WHICH WILL THEM TO FULLY DEVELOP INTO CONTINUOUS MASSES OF THE INDIVIDUAL SPECIES. THEREFORE, NO PRUNING TO SHAPE OR SHEARING IS REQUIRED OR DESIRABLE. WHERE DEAD OR CONFLICTING BRANCHING DEVELOPS, IT SHOULD BE PRUNED OUT, TO NATURAL TARGETS..

5. IRRIGATION

A. THE UNDERGROUND AUTOMATIC SPRINKLER SYSTEM SHALL MEET THE REQUIREMENTS OF CHAPTER 208 OF THE STAFFORD TOWNSHIP CODE ENTITLED "WATER CONSERVATION."

6. MISCELLANEOUS

A. ADDITIONAL PLANTINGS MAY BE REQUIRED AS DEEMED NECESSARY BY THE STAFFORD TOWNSHIP LANDSCAPE ARCHITECT TO SUPPLEMENT ANY EXISTING VEGETATIVE BUFFERS AROUND THE PROPOSED DEVELOPMENT.

B. AT THE DIRECTION OF THE STAFFORD TOWNSHIP LANDSCAPE ARCHITECT, CLEARING LIMITS MY BE ADJUSTED TO SAVE SIGNIFICANT TREES, IF FOUND. IF REQUIRED BY THE TOWNSHIP LANDSCAPE ARCHITECT, LOW WALLS OR TREE WELLS MAY BE REQUIRED IN ORDER TO MAINTAIN PRE-EXISTING GRADES.

PLANTING SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	QUAN.	SIZE	NOTES	PLANT TYPE
Ab	Abelia x grandiflora 'Rose Creek'	ROSE CREEK GLOSSY ABELIA	6	24"-30"	CONTAINER	SEFS
At	Asclepias tuberosa	ORANGE BUTTERFLY MILKWEED	16	2 GALLON	CONTAINER	SEFP
Cp	Chamaecyparis pisifera 'Golden Mop'	GOLDEN MOP FALSECYPRESS	1	30"-36"	CONTAINER	ECS
Dk	Diervilla x splendens 'Kodiak Orange'	KODIAK ORANGE BUSH HONEYSUCKLE	14	24"-30"	CONTAINER	DFS
Ho	Hemerocallis x 'Orange Smoothie'	ORANGE SMOOTHIE REBLOOMING DAYLILY	9	2 GALLON	CONTAINER	DFP
Jg	Juniperus chinensis 'Saybrook Gold'	SAYBROOK GOLD CHINESE JUNIPER	16	24"-30" SPREAD	CONTAINER	ECS
Jv	Juniperus virginiana 'Grey Owl'	GREY OWL SPREADING REDCEDAR	6	24"-30" SPREAD	CONTAINER OR B&B	ECS
Ma	Magnolia grandiflora 'Little Gem'	LITTLE GEM COMPACT SOUTHERN MAGNOLIA	1	10 GALLON	CONTAINER	EBOT
Mp	Morella (Myrica) pensylvanica	NORTHERN BAYBERRY	4	24"-30"	B&B OR CONTAINER	SES
Pa	Prunus serrulata 'Amanogawa'	AMANOGAWA UPRIGHT CHERRY	1	3.0"-3.5" CAL.	B&B	DOT
Pn	Panicum virgatum 'Northwind'	NORTHWIND UPRIGHT SWITCHGRASS	3	2 GALLON	CONTAINER	POG
Pv	Panicum virgatum 'Shenandoah Red'	SHENANDOAH RED SWITCHGRASS	4	2 GALLON	CONTAINER	POG
Ya	Achillea millefolium 'Terracotta'	TERRACOTTA ORANGE YARROW	5	2 GALLON	CONTAINER	SEFP

CONTRACTOR: SUBSTITUTIONS NOT PERMITTED; CONTACT LANDSCAPE ARCHITECT WITH SOURCING & AVAILABILITY QUESTIONS
THE CONTRACTOR ASSUMES AND BEARS ALL RISK IN VARYING FROM THE PLAN, PLANTING SCHEDULE AND/OR SPECIFICATIONS.

LANDSCAPE MAINTENANCE NOTES

ALL MAINTENANCE OF THE SITE SHALL BE CARRIED OUT TO THE STANDARDS OF STAFFORD TOWNSHIP BUT SHALL NOT BE LIMITED TO:

ITEM	SCHEDULE
INSPECTION	TO BE CARRIED OUT AT LEAST MONTHLY
DEBRIS	TO BE REMOVED NO LESS OFTEN THAN AT INSPECTIONS
WEEDS	TO BE REMOVED NO LESS OFTEN THAN AT INSPECTIONS
IRRIGATION	AS INDICATED BY LACK OF RAIN OR AS OTHERWISE NEEDED FOR SOUND PLANT GROWTH. DURING THE FIRST YEAR AFTER PLANTING REGULAR WATERING SHALL BE MADE TO ASSURE SOUND PLANT GROWTH.
MULCHING	MULCH TO BE REPLENISHED AS NECESSARY, AT A MINIMUM SEMI-ANNUALLY, DURING LATE SPRING AND LATE FALL.
ANNUAL PLANTINGS	ANNUALS TO BE SET OUT AFTER DANGER OF FROST IS PAST.. REMNANTS OF THE PLANTS TO BE REMOVED BEFORE HARD FREEZE IN THE FALL.
TURF GRASS MOWING	TURF GRASS SHALL BE MOWED AT LEAST EVERY TWO WEEKS DURING THE GROWING SEASON TO A HEIGHT OF 2 1/2 INCHES.
PRUNING	PRUNING SHALL BE MADE TO PLANTS DURING LATE WINTER TO REMOVE ERRANT, CROSSING, BROKEN AND DAMAGED MATERIAL WHILE MAINTAINING GENERAL NATURAL HABIT OF THE PLANTS. NO CENTRAL LEADER OR TRUNK SHALL BE CUT. BROKEN BRANCHING SHALL ALSO BE REMOVED AS IT APPEARS THROUGHOUT THE YEAR AS REVEALED BY MONTHLY INSPECTION.
FERTILIZATION AND SOIL AMENDMENTS	SOIL pH SHALL BE TESTED BIANNUALLY FOR THE NEED TO ADJUST ACIDITY TO BETWEEN pH 5.8 AND 6.5. FERTILIZATION WITH ORGANIC MATERIALS SHALL BE MADE ONCE ANNUALLY TO ALL AREAS IN THE LATE FALL, WITH AN ADDITIONAL FERTILIZATION MADE TO TURF AREAS ON OR ABOUT 9/1.
LIGHTING	LIGHTING SOURCES SHALL BE MAINTAINED AND REPLACED AS THE NEED ARISES, AS EVIDENT FROM INSPECTION AND OTHERWISE.
SURFACE MATERIALS	GRAVEL, MULCH AND SIMILAR SURFACES SHALL BE INSPECTED MONTHLY OR WHEN THE NEED ARISES. PROPER RAKING TO SMOOTHNESS AND REPLENISHING OF MATERIAL SHALL BE MADE AT THESE TIMES. ALL OTHER SURFACE MATERIALS SHALL BE INSPECTED MONTHLY AND RECTIFIED IF PROBLEMS ARE FOUND.

PLANT TYPE KEY

KEY	DESCRIPTION
DFP	DECIDUOUS FLOWERING PERENNIAL
DFS	DECIDUOUS FLOWERING SHRUB
DOT	DECIDUOUS ORNAMENTAL TREE
EBOT	EVERGREEN BROADLEAF ORNAMENTAL TREE
ECS	EVERGREEN CONIFEROUS SHRUB
POG	PERENNIAL ORNAMENTAL GRASS
SEFP	SEMI-EVERGREEN FLOWERING PERENNIAL
SEFS	SEMI-EVERGREEN FLOWERING SHRUB
SES	SEMI-EVERGREEN SHRUB

EXISTING TREE KEY

KEY	BOTANICAL NAME	COMMON NAME
AR	Acer rubrum	RED MAPLE
KP	Koelreuteria paniculata	GOLDEN RAINTREE
PC	Pyrus calleryana	CALLERY PEAR
PS	Pinus strobus	EASTERN WHITE PINE
QF	Quercus falcata	SOUTHERN RED OAK

SCALE IN FEET
0 20 40

BRYCE BENNETT LANDSCAPE ARCHITECT
MEMBER of THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
119 FRANCE STREET
PO BOX 1911
TOMS RIVER, NJ 08754-1911
732.270.5550
earthbryce1@gmail.com
25 JANUARY 2021
DATE
BRYCE M. BENNETT, NJLLA, ASLA
NEW JERSEY LICENSED LANDSCAPE ARCHITECT No. AS00036600
NOT VALID FOR CONSTRUCTION WITHOUT SIGNATURE AND RAISED SEAL

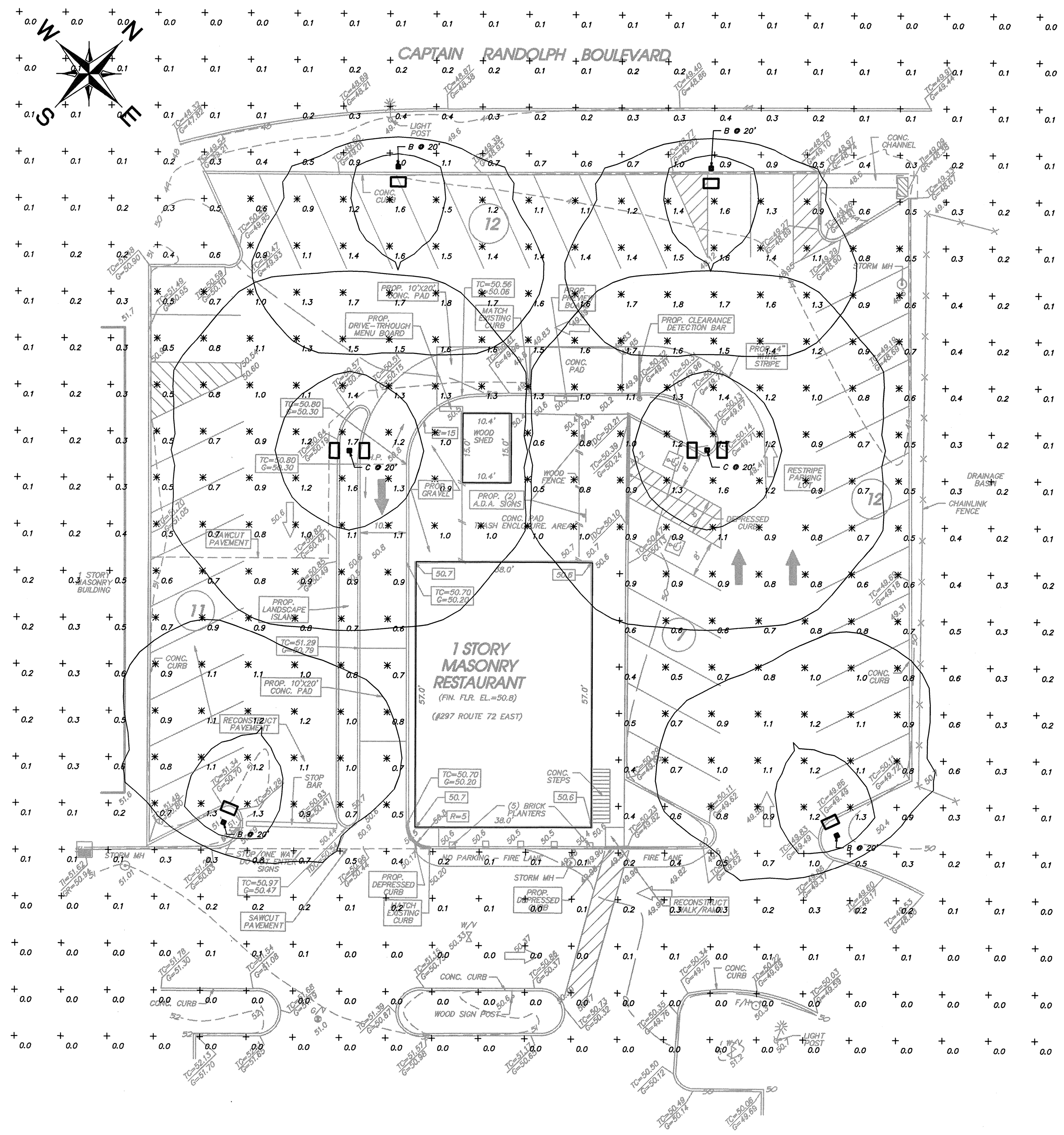
No.	DATE	REVISION	BY	CHK.

MINOR SITE PLAN
P/O TAX LOT 38.01 BLOCK 120.31
TAX MAP SHEET NO. 80
STAFFORD TOWNSHIP
OCEAN COUNTY , NEW JERSEY

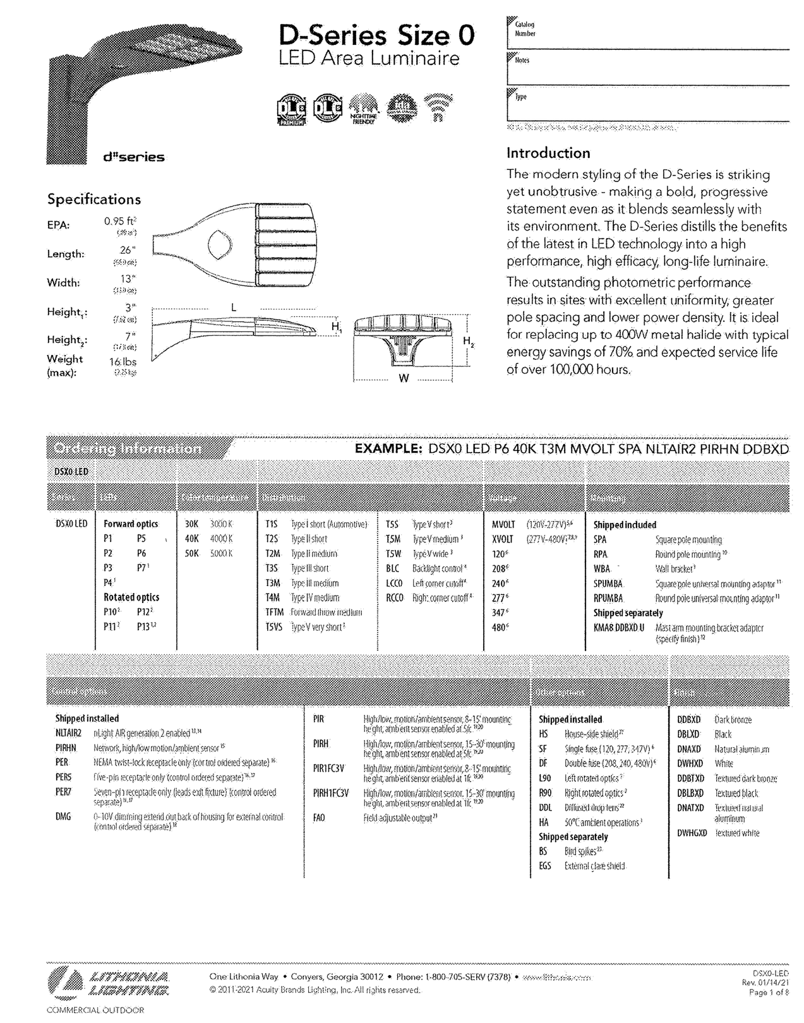
LANDSCAPE PLAN

GRAVATT CONSULTING GROUP
Engineers · Surveyors · Planners · Environmental Scientists
414 Lacey Road, Forked River, NJ 08731
Tel. 609 . 693 . 6127 www.gravattconsulting.com
Certificate of Authorization No. 24GA27925900

SCALE:	1" = 20'
DATE:	1/25/2021
DRAWN BY:	MJD
CHECKED BY:	
SHEET NO.	3 OF 5
PROJECT NUMBER	11298



LIGHTING PLAN

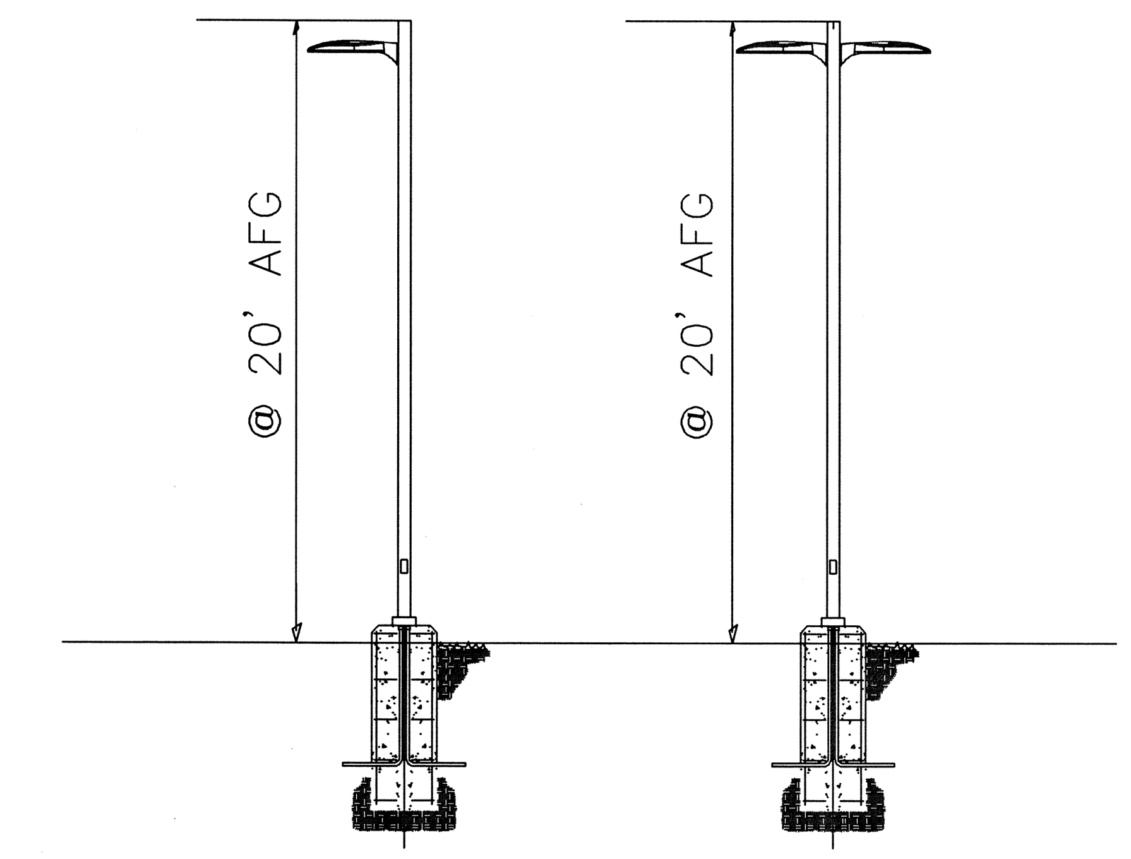


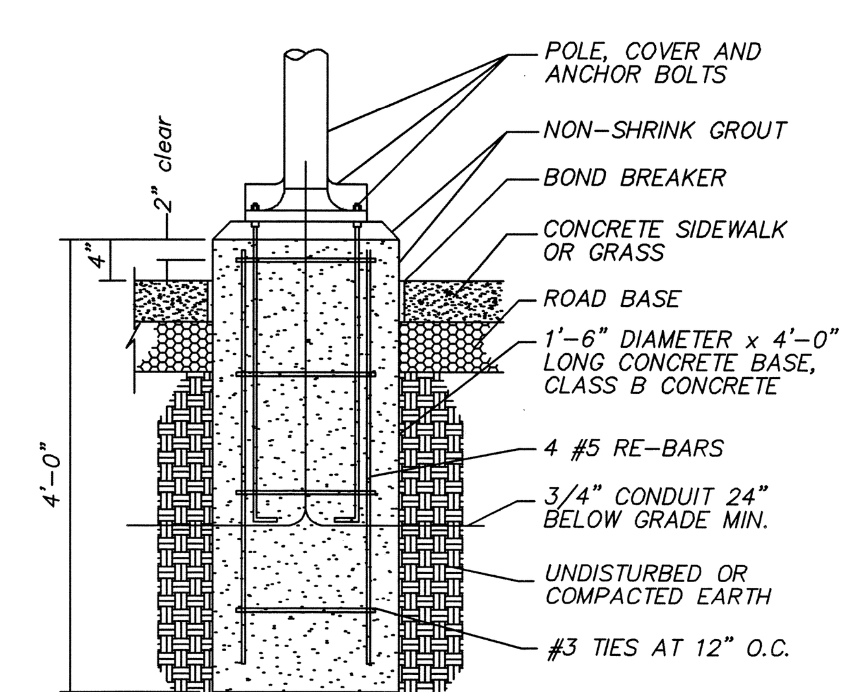
Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
OVERALL @ GRADE	+	0.5 fc	1.8 fc	0.0 fc	N/A	N/A
PARKING + DRIVEWAY @ GRADE	⋇	1.0 fc	1.8 fc	0.5 fc	3.6:1	2.0:1

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage	Pole
	B	4	Lithonia Lighting	DSX0 LED P1 40K TFTM MVOLT HS	DSX0 LED P1 40K TFTM MVOLT with houseside shield	3678	0.9	38	Valmont 2000-50506-S4 on 6" concrete pier
	C	2	Lithonia Lighting	DSX0 LED P1 40K T5W MVOLT	DSX0 LED P1 40K T5W MVOLT	4859	0.9	76	Valmont 2000-50506-S4 on 6" concrete pier





LIGHT POLE BASE DETAIL

NO SCALE

LIGHTING NOTES :

1. LIGHT POLES AND FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. SITE LIGHTING ELECTRICAL PLANS AND CIRCUIT DIAGRAMS ARE THE RESPONSIBILITY OF OTHERS.
3. THIS LIGHTING PLAN WAS PREPARED WITH ASSISTANCE FROM LIBERTY LIGHTING GROUP, CHATHAM, NEW JERSEY.
4. MAXIMUM LAMP HEIGHT = 20 FT.
5. BUILDING-MOUNTED LIGHTS TO BE DETERMINED BY ARCHITECT.

SCALE IN FEET
0 20 40

No.	DATE	REVISION	BY	CHK.

BRUCE A. JACOBS
N.J. Professional Engineer No. 37489

1/25/2021
DATE

MINOR SITE PLAN
P/O TAX LOT 38.01 BLOCK 120.31
TAX MAP SHEET NO. 80
STAFFORD TOWNSHIP
OCEAN COUNTY , NEW JERSEY

LIGHTING PLAN

GRAVATT CONSULTING GROUP
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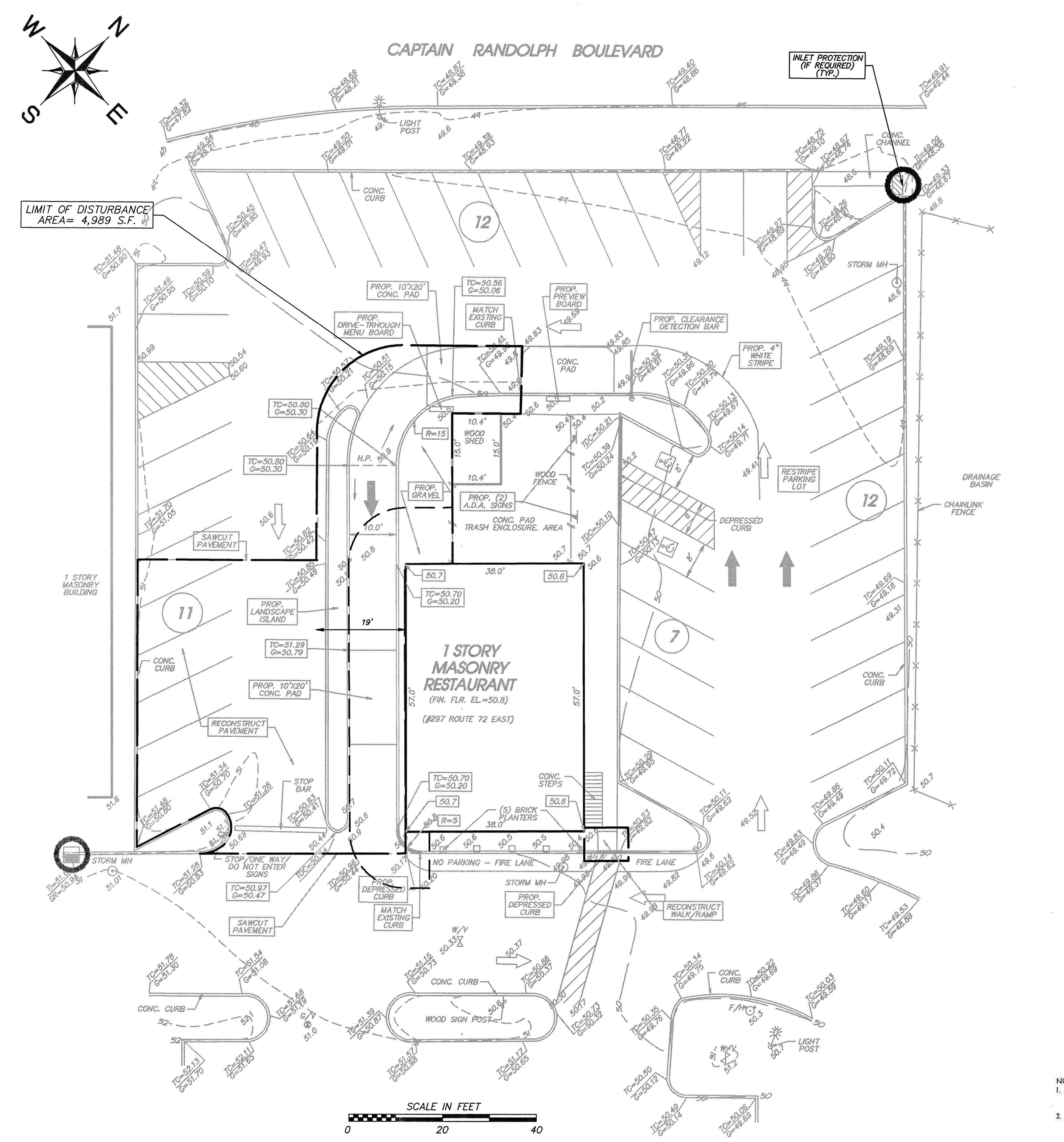
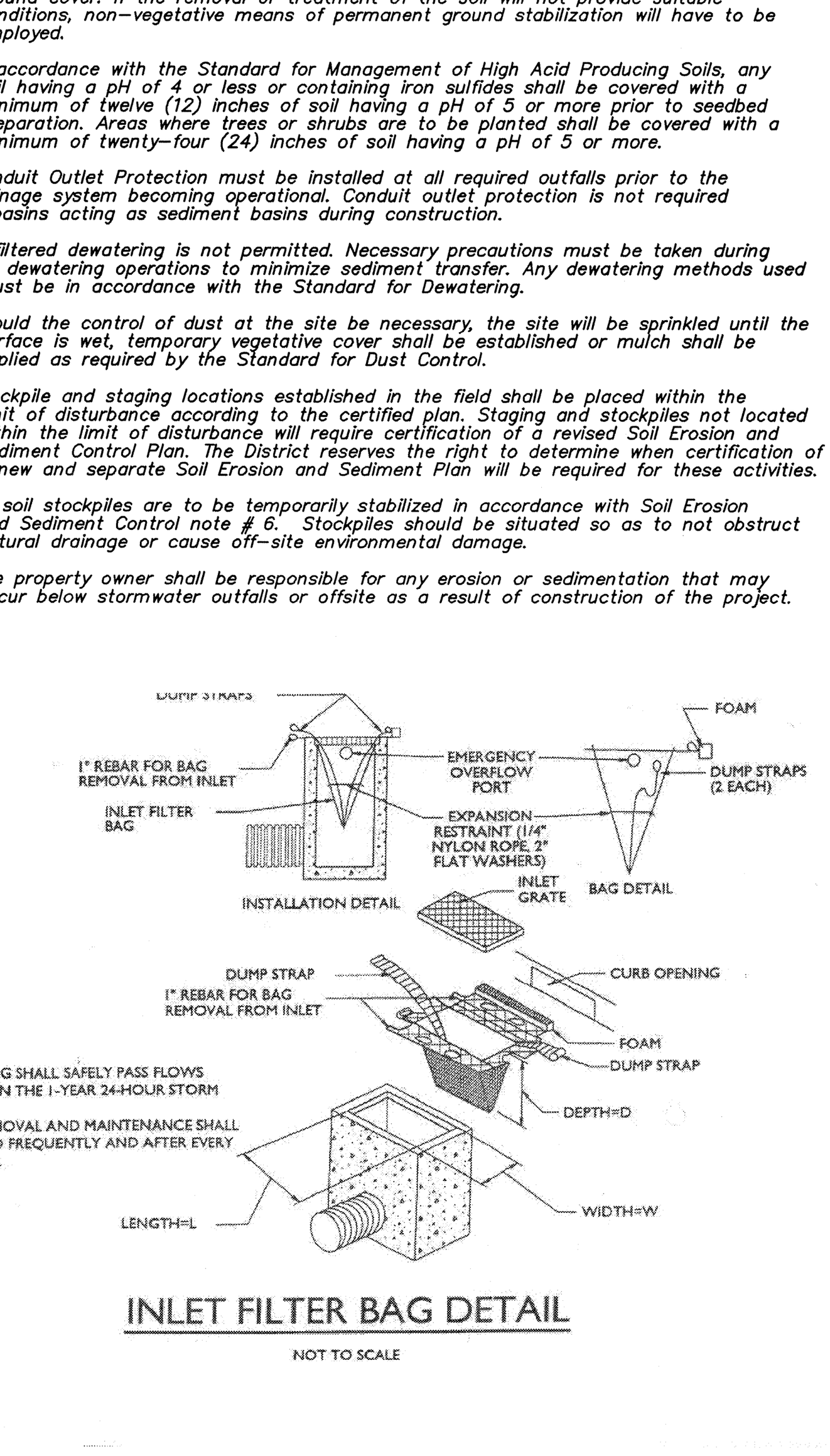
Certificate of Authorization No. 24GA27925900

SCALE: 1" = 20'
DATE: 1/25/2021
DRAWN BY: MJD
CHECKED BY:
SHEET NO. 4 OF 5
PROJECT NUMBER
11298



SOIL EROSION AND SEDIMENT CONTROL NOTES :

1. The Ocean County Soil Conservation District shall be notified forty-eight (48) hours in advance of any land disturbance.
2. All work is to be done in accordance with the State Standards for Soil Erosion and Sediment Control in New Jersey.
3. All Soil Erosion and Sediment Control practices are to be installed prior to any major soil disturbance, or in their proper sequence, and maintained until permanent protection is established.
4. Any changes to the Certified Soil Erosion and Sediment Control Plans will require the submission of revised Soil Erosion and Sediment Control Plans to the District. The revised plans must meet all current "The Standards for Soil Erosion and Sediment Control and Sediment Control in New Jersey, 7th Edition, January 2014, Revised July 2017.
Link to 2014 Standards: http://www.state.nj.us/agriculture/divisions/anr/nrc/njerosion.html
5. N.J.S.A. 4:24-39 et. seq. requires that no Certificates of Occupancy be issued before there has been compliance with provisions of a certified plan for permanent measures. All site work, and all work around individual lots in subdivisions, must be completed prior to the the District issuing a Report of Compliance for the issuing of a Certificate of Occupancy by the Municipality.
6. Any disturbed areas that will be left exposed more than sixty (60) days, and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw, or equivalent material within 14 days, at a rate of 2 to 2-1/2 tons per acre, according to State Standard for Stabilization with Mulch Only.
7. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. steep slopes and roadway embankments) will receive temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of 1-1/2 to 2 tons per acre, according to State Standards.
8. A sub-base course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas. In areas where no utilities are present, the sub-base shall be installed within fifteen (15) days of the preliminary grading.
9. Any steep slopes (3:1 or greater) or any existing roadways receiving pipeline installation will be backfilled and stabilized daily, as the installation continues.
10. The Standard for Stabilized Construction Access requires the installation of a stone pad using clean crushed angular stone (ASTM C-33, size No. 2 or 3) at all construction driveways where vehicles will access paved roadways from unpaved areas of the site.
11. All sediment washed, dropped, spilled, or tracked onto roadways (public or private) or other impervious surfaces will be removed immediately.
12. Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading. At the time of the final inspection, you are required to provide confirmation that the proper type and amount of seed, lime and fertilizer have been used for permanent stabilization work. Straw mulch is required on all seeding.
13. At the time that site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that it will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed.
14. In accordance with the Standard for Management of High Acid Producing Soils, any soil having a pH of 4 or less or containing iron sulfides shall be covered with a minimum of twelve (12) inches of soil having a pH of 5 or more prior to seedbed preparation. Areas where trees or shrubs are to be planted shall be covered with a minimum of twenty-four (24) inches of soil having a pH of 5 or more.
15. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational. Conduit outlet protection is not required in basins acting as sediment basins during construction.
16. Unfiltered dewatering is not permitted. Necessary precautions must be taken during all dewatering operations to minimize sediment transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering.
17. Should the control of dust at the site be necessary, the site will be sprinkled until the surface is wet, temporary vegetative cover shall be established or mulch shall be applied as required by the Standard for Dust Control.
18. Stockpile and staging locations established in the field shall be placed within the limit of disturbance according to the certified plan. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. The District reserves the right to determine when certification of a new and separate Soil Erosion and Sediment Plan will be required for these activities.
19. All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note # 6. Stockpiles should be situated so as to not obstruct natural drainage or cause off-site environmental damage.
20. The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or offsite as a result of construction of the project.



NOTES:
1. THE FILTER BAG SHALL SAFELY PASS FLOWS GREATER THAN THE 1-YEAR 24-HOUR STORM EVENT.
2. SEDIMENT REMOVAL AND MAINTENANCE SHALL BE PERFORMED FREQUENTLY AND AFTER EVERY STORM EVENT.

INLET FILTER BAG DETAIL

NOT TO SCALE

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

Definition
Establishment of temporary vegetative cover on soils exposed for periods of two to 6 months which are not being graded, not under active construction or not scheduled for permanent seeding within 60 days.

Purpose
To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Water Quality Enhancement
Provides temporary protection against the impacts of wind and rain, slows the over land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable
On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with the Standards for Land Grading, pg. 19-1.
   B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
   C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.)
2. Sedbeed Preparation
   A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Liming rates shall be established via soil testing. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.
   B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or discing operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
   C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled in accordance with the above.
   D. Soils high in sulfides or having a pH or 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1-1.
3. Seeding
   A. Select seed from recommendations in Table 7-2.

TABLE 7-2
TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH

SEED SELECTIONS	SEEDING RATE(1) (pounds) Per Acre	SEEDING RATE(1) (pounds) Per 1000 Sq. Ft.	OPTIMUM SEEDING DATE(2) Based on Plant Hardiness Zone(3) ZONE 5b, 6a	ZONE 6b	ZONE 7a, b	OPTIMUM SEED DEPTH(4) (inches)
COOL SEASON GRASSES						
1. Perennial ryegrass	100	1.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	0.5
2. Spring oats	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	1.0
3. Winter Barley	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15	1.0
4. Annual ryegrass	100	1.0	3/15-6/1 8/1-9/15	3/1-5/15 8/1-9/15	2/15-5/1 8/15-10/15	0.5
5. Winter Cereal Rye	112	2.8	8/1 - 11/1	8/1 - 11/15	8/1 - 12/15	1.0
WARM SEASON GRASSES						
6. Pearl millet	20	0.5	6/1-8/1	5/15-8/15	5/1-9/1	1.0
7. Millet (German or Hungarian)	30	0.7	6/1-8/1	5/15-8/15	5/1-9/1	1.0

1 Seeding rate from warm season grass, selections 5-7 shall be adjusted to reflect the amount of Pure Line Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.
2 May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3 Plant Hardiness Zone (see figure 7-1, pg. 7-4.)
4 Twice the depth for sandy soils

   B. Conventional seeding. Apply seed uniformly by hand, cyclone (cetrifugal) seeder, drop seeder, drill, or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seeding, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
   C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (Also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
   D. After seeding, firming the soil with a corrugated roller will assure good-seed-to-soil contract, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
4. Mulching
   Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
   A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.
   Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.
   Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.
   1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris-cross and a square pattern. Secure twine around each peg with two or more round turns.
   2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
   3. Crimper (mulch anchoring tool) - A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
   4. Liquid Mulch-Binders - May be used to anchor hay or straw mulch.
      a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crest of banks. The remainder of the area should be uniform in appearance.
      b. Use one of the following:
         (1) Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
         (2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
         Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.
   B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
   C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to seeded area and watered, form a mulch mat. Pelletized much shall be applied in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.
   Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

Definition
Establishment of permanent vegetative cover on soils where perennial vegetation is needed for long-term protection.

Purpose
To permanently stabilize the soil, ensuring conservation of soil and water, and to enhance the environment.

Water Quality Enhancement
Slows the over-land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable
On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with the Standard for Land Grading.
   B. Immediately prior to seeding and topsoil and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading.
   C. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling.
   D. Install needed erosion control practices or facilities such as diversions, grade-stabilization structures, channel stabilization measures, sediment basins, and waterways.
3. Sedbeed Preparation
   A. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply 1/2 the rate described above during seedbed preparation and repeat another 1/2 rate application of the same fertilizer within 3 to 5 weeks after seeding.
   B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or discing operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
   C. High Acid Producing Soils. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of twelve (12) inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid-Producing Soils for specific requirements.
3. Seeding
   A. Select a mixture from Table 4-3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination date more than 12 months old unless retested.
      1. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permenent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.
      2. Warm-season mixtures are grasses and legumes which maximize growth at high temperatures, generally 85°F and above. See table 4-3 mixtures 1 to 7. Planting rates for warm-season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.
      3. Cool-season mixtures are grasses and legumes which maximize growth at temperatures below 85°F. Many grasses become active at 65°F. See Table 4-3, mixtures 8-20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.
   B. Conventional seeding is performed by applying seed uniformly by hand, cyclone (cetrifugal) seeder, drop seeder, drill, or cultipacker seeder. Except for drilled. hydroseeded or cultipacked seeding, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
   C. After seeding, firming the soil with a corrugated roller will assure good-seed-to-soil contract, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
   D. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding (Also see Section 4 - Mulching below). Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth.
4. Mulching
   Mulching is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.
   A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed.
   Application. Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.
   Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.
   1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris-cross and a square pattern. Secure twine around each peg with two or more round turns.
   2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
   3. Crimper (mulch anchoring coulter tool) - A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
   4. Liquid Mulch-Binders - May be used to anchor salt hay, hay or straw mulch.
      a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crest of banks. The remainder of the area should be uniform in appearance.
      b. Use one of the following:
         (1) Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not resualt in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
         (2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing shall no longer be soluble or dispersible in water. binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
         Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.
   B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
   C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to seeded area and watered, form a mulch mat. Pelletized much shall be applied in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.
5. Irrigation (where feasible)
   If soil moisture is deficient supply new seeding with adequate water (a minimum of 1/4 inch applied up to twice a day until vegeatation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.
6. Topdressing.
   Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A - Seedbed Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 sqcare feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.
7. Establishing Permanent Vegetative Stabilization
   The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4-3 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

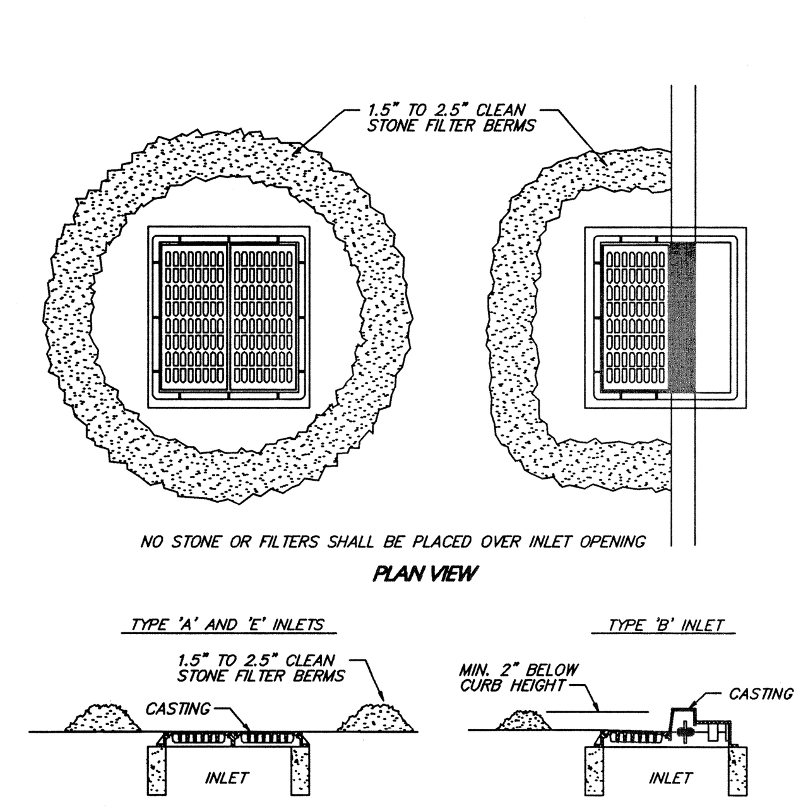
STABILIZATION NOTES : (RATES ARE ALL PER 1,000 SQUARE FEET)

1. PREPARE SEEDBED. ALL DEBRIS MUST BE REMOVED FROM THE TOPSOIL (5" MINIMUM DEPTH) BEFORE WORK IS PERFORMED.
2. APPLY NINETY (90) POUNDS GROUND LIMESTONE (OR AS DETERMINED BY A SOIL TEST).
3. APPLY ELEVEN (11) POUNDS 10-10-10 FERTILIZER (OR AS DETERMINED BY A SOIL TEST).
4. APPLY SEED USING ONE OF THE SEEDING MIXTURES BELOW. ALL SEED MUST BE INCORPORATED OR RAKED INTO THE SOIL.
5. APPLY NINETY (90) POUNDS STRAW MULCH. ALL STRAW MULCH MUST BE PROPERLY TACKED (ANCHORED).

NOTE: AT THE TIME OF FINAL INSPECTION, YOU ARE REQUIRED TO SUBMIT A SOIL COMPACTION MITIGATION VERIFICATION FORM. YOU MUST ALSO PROVIDE CONFIRMATION THAT THE PROPER TYPE AND AMOUNT OF SEED, LIME AND FERTILIZER HAVE BEEN USED FOR PERMANENT STABILIZATION WORK

SEED MIXTURES FOR ZONE 7a/b : (ALL SEED MUST BE INCORPORATED OR RAKED INTO THE SOIL)

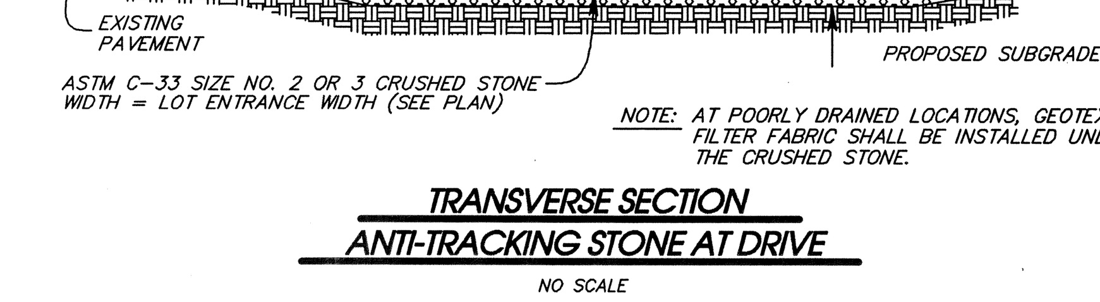
	PLANT SPECIES	SEEDING RATE (POUNDS PER 1,000 SQUARE FEET)
MIX #1	TALL FESCUE (TURF TYPE)	6.0
	PERENNIAL RYEGRASS	0.5
	KENTUCKY BLUEGRASS	0.5
	TOTAL	7.0 POUNDS PER 1,000 SQUARE FEET
MIX #2	HARD FESCUE	3.0
	(STRONG) CREEPING RED FESCUE	1.0
	CHEWINGS FESCUE	1.0
	PERENNIAL RYEGRASS	0.25
	TOTAL	5.25 POUNDS PER 1,000 SQUARE FEET
MIX #3	HARD FESCUE	4.0
	PERENNIAL RYEGRASS	1.0
	KENTUCKY BLUEGRASS	1.0
	TOTAL	6.0 POUNDS PER 1,000 SQUARE FEET



STONE PILES NOT TO EXCEED CURB HEIGHT OR OBSTRUCT FLOW TO AN EXTENT THAT A FLOODING HAZARD IS CREATED

INLET PROTECTION DETAILS

NO SCALE



ASTM C-33 SIZE NO. 2 OR 3 CRUSHED STONE
WIDTH = LOT ENTRANCE WIDTH (SEE PLAN)

NOTE: AT POORLY DRAINED LOCATIONS, GEOTEXTILE FILTER FABRIC SHALL BE INSTALLED UNDERNEATH THE CRUSHED STONE.

TRANSVERSE SECTION ANTI-TRACKING STONE AT DRIVE

NO SCALE

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED COARSE GRAINED SOILS	FINE GRAINED SOILS
0 to 2%	50 ft.	100 ft.
2 to 5%	100 ft.	200 ft.
>5%	ENTIRE SURFACE STABILIZED WITH HOT-MIX ASPHALT BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

Where a stabilized construction exit traverses between two buildings, it shall be stoned the entire length of the right-of-way. Mountable stone berms placed across the width of the exit may also be required at the transition point between paved and non-paved areas to trap sediments which are carried by stormwater flowing along the curbline.

Individual lot entrance and egress - After interior roadways are paved, individual lot ingress/egress points may require a stabilized construction entrance consisting of no. 3 stone (1" to 2") to prevent or minimize tracking of sediments. Width of the stone ingress/egress shall be equal to lot entrance width and shall be a minimum of ten feet in length.

All sediment spilled, dropped, washed, or tracked onto raodways (public or private) or other impervious surfaces must be removed immediately.

Tire washing - IF space is limited, vehicle tires may be washed with clean water before entering a paved area. A wash station must be located such that wash water will not flow onto paved roadways or into unprotected storm drainage systems.

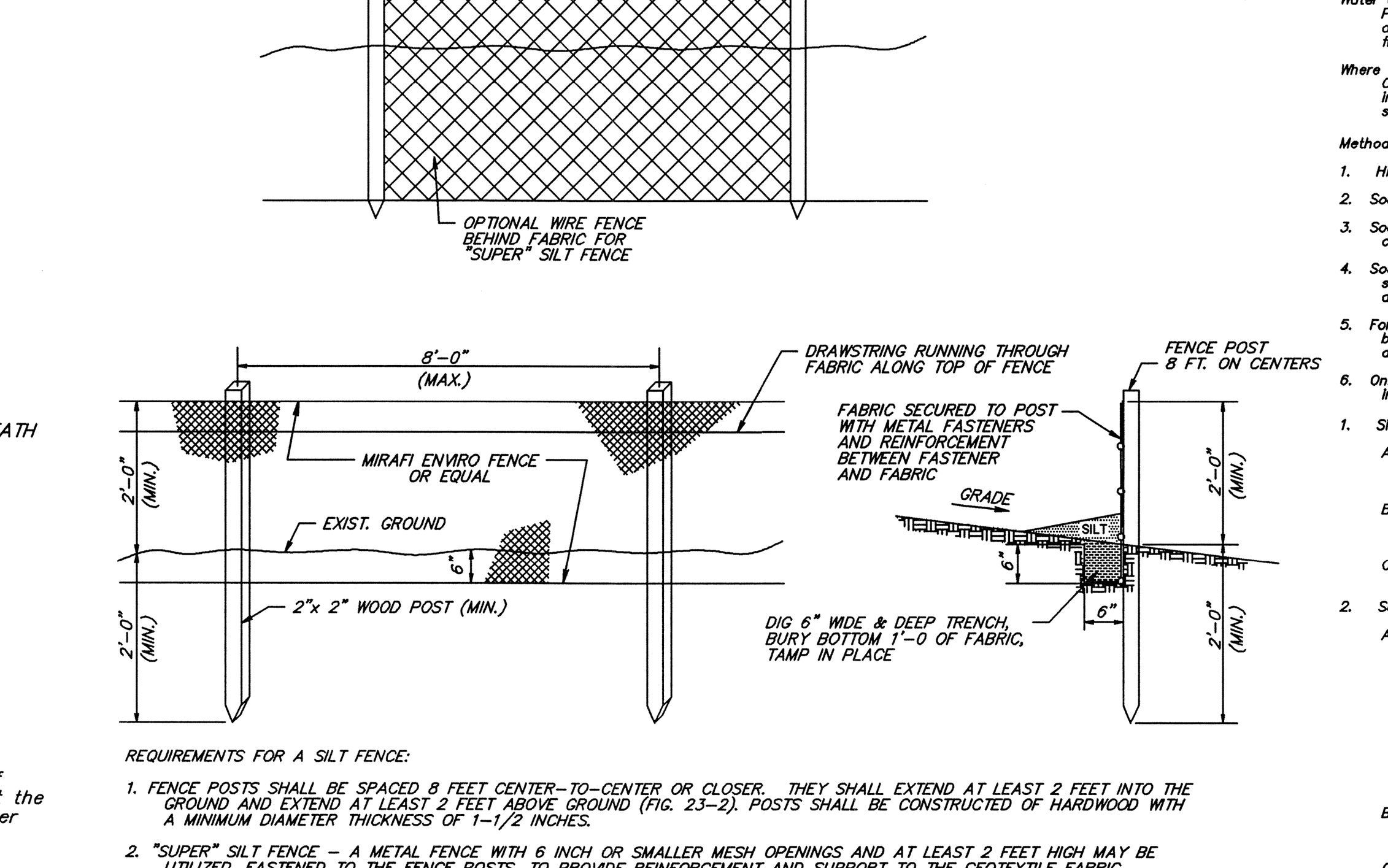
When the construction access exits onto a major roadway, a paved transition area may be installed bewteen the major roadway and the stoned entrance to prevent loose stones from being transported out onto the roadway by heavy equipment entering or leaving the site.

MAINTENANCE NOTES:

The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto roadways. This may require periodic top dressing with additional stone or additional length as conditions demand and repair and/or cleanout of any measures used to trap sediment.

Where accumulation of dust/sediment is inadequately cleaned or removed by conventional methods, a power broom or street sweeper will be required to clean paved or impervious surfaces. All other access points which are not stabilized shall be blocked off.

For additional information refer to Section 27 of the "Standards for Soil Erosion and Sediment Control in New Jersey", 7th Edition, January 2014, Revised July 2017.



REQUIREMENTS FOR A SILT FENCE:

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND (FIG. 23-2). POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES.
2. "SUPER" SILT FENCE - A METAL FENCE WITH 6 INCH OR SMALLER MESH OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC. POSTS MAY BE SPACED LESS THAN 8 FEET ON CENTER AND MAY BE CONSTRUCTED OF HEAVIER WOOD OR METAL AS NEEDED TO WITHSTAND HEAVIER SEDIMENT LOADING. THIS PRACTICE IS APPROPRIATE WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED. "SUPER" SILT FENCE IS NOT TO BE USED IN PLACE OF PROPERLY DESIGNED DIVERSIONS (PG. 15-1) WHICH MAY BE NEEDED TO CONTROL SURFACE RUNOFF RATES AND VELOCITIES.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

REQUIREMENTS FOR STONE BARRIER:

1. THE STONE SHALL BE PILED TO A NATURAL ANGLE OF REPOSE WITH A HEIGHT OF AT LEAST 2 FEET.
2. THE STONE SHALL MEET ASTM C-33 SIZE NO. 2 (2.5-1.5) OR 3 (2 TO 1 INCH).

MAINTENANCE NOTES:

1. Sediment shall be removed from the upstream face of the barrier when it has reached a depth of 1/2 the barrier height.
2. Repair or replace barrier (fabric, posts, bales etc.) when damaged..
3. Barriers shall be inspected daily for signs of deterioration and sediment removal.

For additional information refer to Section 23 of the "Standards for Soil Erosion and Sediment Control in New Jersey", 7th Edition, January 2014, Revised July 2017.

SILT FENCE DETAIL

NO SCALE

STANDARD FOR PERMANENT STABILIZATION WITH SOD

Definition
Establishing permamnent vegetaion using sod.

Purpose
To permanently stabilize topsoil with an immediate aesthetic covering, thus assuring conservation of soil and water, and to enhance the envirionment.

Water Quality Enhancement
Provides an immediate, permanent vegetative cover to the soil from the impacts of wind and rain and prevents soil and nutrient losses to streams or other stormwater conveyances from stormwater runoff.

Where Applicable
On exposed soils that have a potential for causing off-site environmental damage where an immediate, permanent vegetative cover is desired. Water (rain or irrigation) is required for success; access to irrigation is essential during drought.

Methods and Materials

1. High quality cultivated sod is preferred over natuve or pasture sod.
2. Sod should be free of broadleaf weeds and undesirable coarse and fine weed grasses.
3. Sod should be of uniform thickness, typically 5/8 inch, plus or minus 1/4 inch, at time of cutting (excludes top growth)
4. Sod should be vigorous and dense and be able to retain its own shape and weight when suspended vertically from th eupper ten percent of the strip. Broken pads and rolls or torn and uneven ends will not be acceptable.
5. For droughty sites, a sod of turf-type tall fescue or turf-type tall fescue mixed with Kentucky bluegrass is preferred over a 100% Kentucky bluegrass sod. Although not widely available, a sod of fine fescue is also acceptable for droughty sites.
6. Only moist, fresh, unheated sod should be used. Sod should be harvested, delivered, and installed within a period of 24 hours or less during summer months.

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for liming, fertilizing, incorporation of organic matter, and other soil preparation procedures. All grading should be done in accordance with the Standard for Land Grading.
   B. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. See the Standard for Topsoiling for topsoil and amendment requirements.
   C. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways.
2. Soil Preparation
   A. Uniformly apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from local Rutgers Cooperative Extension offices (http://njaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply 1/2 the rate described above during seedbed preparation and repeat another 1/2 rate application of the same fertilizer within 3 to 5 weeks after seeding. Liming rates shall be established via soil testing. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.
   B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or discing operation should be on the general contour. Continue tillage until a reasonable uniform fine seedbed is prepared.
   C. Remove from the surface all objects that would prevent good sod to topsoil contact and remove all other debris, such as wire, cable, tree roots, pieces of concrete, clods, lumps, or other unsuitable material.
   D. Inspect site just before sodding. If traffic has left the soil compacted, the area must be retilled in accordance with the above.
3. Sod Placement
   A. Sod strips should be laid on the contour, never up and down the slope, starting at the bottom of the slope and working up. On steep slopes, the use of ladders will facilitate the work and prevent damage to the sod. During periods of high temperature, lightly irrigate the soil immediately prior to laying the sod.
   B. Place sod strips with snug, even joints (seams) that are staggered. Open spaces invite erosion.
   C. Lightly roll or tamp sod immediately following placement to insure solid contact of root mat and soil surface. Do not overlap sod. All joints should be butted tightly to prevent voids which would cause drying of the roots and invasion of weeds.
   D. On slopes greater than 3 to 1, secure sod to surface soil with wood pegs, wire staples, biodegradable plastic spikes, or split shingles (8 to 10 inches long by 3/4 inch wide).
   E. Surface water cannot always be diverted from flowing over the face of the slope, but a capping strip of heavy jute or plastic netting, properly secured, along the crown of the slope and edges will provide extra protection against lifting and undercutting of sod. The same technique can be used to anchor sod in water carrying channels and other critical areas. Wire staples must be used to anchor netting in channel work.
   F. Immediately following insallation, sod should be watered until water penetrates the soil layer beneath sod to a depth of 1 inch. Maintain optimum water for at least two weeks.
4. Topdressing - Since soil organic matter and slow release nitrogen fertilizer (water insoluble) are prescribed in sections 1 and 2 in this Standard, a follow up topdressing is not mandatory, except where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop, topdressing shall then be applied. Topdress with 10-0-10 or equivalent at 400 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

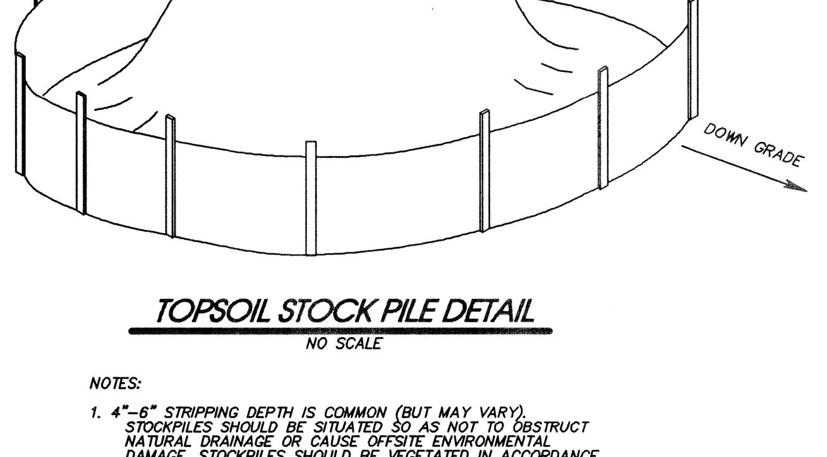
TOPSOILING NOTES :

1. Topsoil should be handled only when it is dry enough to work without damaging soil structure.
2. A uniform application to an average depth of 5" (minimum 4") firmed in place is required.
3. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed.

STABILIZATION WITH MULCH ONLY

Stabilizing exposed soils with non-vegetative materials

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with the Standards for Soil Erosion & Sediment Control for Land Grading.
   B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways.
2. Protective Materials
   A. Unrotted small-grain straw, or salt hay at 2.0 to 2.5 tons per acre is spread uniformly at 90 to 115 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District.
   B. Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.
   C. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre (or according to the manufacturer's requirements) may be applied by a hydroseeder.
   D. Mulch netting, such as paper jute, excelsior, cotton, or plastic, may be used.
   E. Wood chips applied uniformly to a minimum depth of 2 inches may be used. Wood chips will not be used on areas where flowing water could wash them into an inlet and plug it.
   F. Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 sq. ft. applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.
3. Mulch Anchoring - should be accomplished immediately after placement of hay or straw mulch to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area and steepness of slopes.
   A. Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cris-cross and a square pattern. Secure twine around each peg with two or more round turns.
   B. Mulch Nettings - Staple paper, cotton, or plastic nettings over mulch. Use a degradable netting in area to be mowed. Netting is usually available in rolls 4 feet wide and up to 300 feet long.
   C. Crimper Mulch Anchoring Coulter Tool - A tractor-drawn implement especially designed to punch and anchor mulch into the soil surface. This practice affords maximum erosion control, but its use is limited to those slopes upon which the tractor can operate safely. Soil penetration should be about 3 to 4 inches. On sloping land, the operation should be on the contour.
   D. Liquid Mulch-Binders
      1. Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.
      2. Use one of the following:
         a. Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials that mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.
         b. Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates and weather conditions recommended by the manufacturer and remain tacky until germination of grass.



TOPSOIL STOCK PILE DETAIL

NO SCALE

NOTES:
1. 4"-6" STRIPPING DEPTH IS COMMON (BUT MAY VARY). STOCKPILES SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFFSITE ENVIRONMENTAL DAMAGE. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS DESCRIBED HEREON. REFER TO TEMPORARY OR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.
2. STOCKPILES NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100 FEET OF A NATURAL STREAM

CONSTRUCTION SEQUENCE

1. CLEAR SITE AS NECESSARY. (2 WEEKS)
2. BEGIN BUILDING CONSTRUCTION AND PARKING LOT RECONSTRUCTION. (5 MONTHS)
3. FINISH GRADE DISTURBED AREAS. (1 DAY)
4. TOPSOIL (5" MINIMUM DEPTH) AND FINAL GRADING OF LOTS. (1 DAY)
5. PERMANENT STABILIZATION. (1 DAY)
6. REMOVE ALL SOIL EROSION CONTROL DEVICES. (1 DAY)
7. THE FINAL STEP IN THE SEQUENCE OF CONSTRUCTION IS OBTAIN A FINAL REPORT OF COMPLIANCE. ALL WORK MUST BE COMPLETED AND PERMANENT STABILIZED BEFORE REPORT OF COMPLIANCE CAN BE ISSUED.

NOTES: 1. The contractor shall be responsible for maintenance of soil erosion control measures during construction.

LEGEND

Symbol		Description
---3---	=	EXIST. CONTOUR
4	=	PROPOSED CONTOUR
M.B.S.L.	=	MINIMUM BUILDING SETBACK LINE
3.5	=	EXIST. ELEVATION
4.0	=	PROPOSED ELEVATION

SCALE IN FEET
0 20 40

No.	DATE	REVISION	BY	CHK.

BRUCE A. JACOBS
N.J. Professional Engineer No. 37489

1/25/2021
DATE

MINOR SITE PLAN
P/O TAX LOT 38.01 BLOCK 120.31
TAX MAP SHEET NO. 80
STAFFORD TOWNSHIP
OCEAN COUNTY , NEW JERSEY

SOIL EROSION & SEDIMENT CONTROL PLAN AND DETAILS

GRAVATT CONSULTING GROUP
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Certificate of Authorization No. 24GA27925900

SCALE: 1" = 20'
DATE: 1/25/2021
DRAWN BY: MJD
CHECKED BY:
SHEET NO. 5 OF 5
PROJECT NUMBER 11298